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Samuel Shackford

A GUIDE

TO

FLORICULTURE;

CONTAINING

INSTRUCTIONS TO THE YOUNG FLORIST,

FOR THE MANAGEMENT OF THE MOST POPULAR FLOWERS OF THE DAY.

Illustrated with Colored Plates.

"O who that has an eye to see,
An ear to hear, a tongue to bless,
Can ever undelighted be
With Nature's magic loveliness."

BY T. WINTER.

CINCINNATI
DERBY, BRADLEY & CO.

1847.

Part

Roses in Pots.

The ever-blooming roses are best for house culture in pots—because they bloom quicker and more continuously than any of the others, and besides this, their style and habit of growth are more bushy and better adapted to the purpose. They can be kept nicely with other growing plants, and with proper attention to their requirements will bloom freely. (1.) Do not use too large pots—if possible, not more than three or four inches. The rule is, one size larger than the plants have been grown in. The smaller the pot—provided, of course, it is large enough to contain plant—the quicker and stronger the plant will start. It is very difficult to get a small plant to live and grow in a large pot. A rose will not bloom much till the pot is well filled with roots; therefore, small pots facilitate quick bloom. If the

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PREFACE.

In presenting the following pages to the public, I consider it incumbent upon me to state the reasons which have induced their publication in the present form.

Most of the chapters in this work were written, at leisure moments, for a Horticultural Magazine, formerly published in this place. That work having been for a long time suspended, many of my female friends have solicited me to publish them in the form of a book. In compliance with their solicitations I have been induced to collect and arrange them, together with additional matter, in the hope of thereby furnishing a work that might be useful to those amateur florists who possess more taste for Floriculture than knowledge of the principles and practice by which it should be directed. I have endeavored, according to the best of my humble ability, to make the subject as intelligible, and to present its prominent principles encumbered with as few difficulties or embarrassments, as possible.

M363115

In getting [illegible] has been spared, [illegible] or in procuring [illegible] character, to make [illegible] as a pocket, companion.

A Glossary, carefully compiled from the best botanical works, has been added, which, it is believed, will be found brief, comprehensive, and well adapted to the instruction of the young amateur.

Not being a professed Botanist, I may have committed some errors in the botanical descriptions; but I trust that if it be so, they will be found to be of so trivial a nature as not materially to impair the value of the work.

Under these circumstances I beg the indulgence of my readers, hoping that my humble efforts to facilitate their progress in Floriculture may not be considered unworthy of their favorable regard.

GUIDE TO FLORICULTURE.

GARDENING.

"No tale of passion have I to breathe,
Yet, gentle reader, I fain would wreathe
A floral garland, whose leaves shall be
Emblems and tokens of love and thee.
FLOWERS!—they bloom by the lowliest cot—
May they gladden, and brighten, and bless thy lot."

Gardening is founded on natural philosophy, and the least economical principle in its study of course informs the mind into the nature and truth of the culture of flowers, and we then discover the habit of those plants we wish to cultivate with success. Where nature has not endowed the mind with a natural taste for the physiological principles of the culture of flowers, it is time lost by endeavoring to acquire it.

"What then, is taste, but those internal powers,
Active and strong, and feelingly alive
To each fine impulse? a discerning sense
Of decent and sublime, with quick disgust
From things deformed, or disarranged, or gross
In species? This, nor gems, nor stores of gold,
Nor purple state, nor culture, can bestow:
But God alone, when first his active hand
Imprints the sacred bias of the soul."

Where taste really does exist, there is a manifold pleasure to the mind that serves to preserve the human life more essentially than appears to the common observer. This may appear strange; but when we reflect on the solace the mind undergoes at leisure moments, even to the business man — the evenness created in the temper — the pleasurable change he experiences after the pursuit of business — all tend to create in the mind that which it stands in need of, *a blissful feeling*, an incentive that keeps the body in health and vigor. The occupancy of Gardening after the business of the day is over, if not thus passed, would be in luxury or temporary pleasure which would only debilitate the mind and constitution. That part of Gardening which relates to the culture of plants is of easy management, and does not require the skill so generally supposed or bestowed on them. Many plants are killed by kindness, when it should be borne in mind that plants, like the human family, require a state of rest, therefore should not be kept always in a growing state. For instance, a person deprived of his natural rest becomes eventually unfit for his avocation; not only that, he must live regular, or he will never be vigorous or of a healthful habit. Plants are living things; nature has not endowed them with speech, it is true; still, by watching them close, there are certain signs in their appearance so apparent that will convince the cultivator that, if not treated correct in their habit, a different system must be adopted. Therefore, to come as near nature as possible, our understanding should teach us that plants in pots should be repotted into fresh soil in their season; that is, when in a state of rest, and be watered only when growing, to make them healthy, and the soil should be as near

that as we can possibly find to suit their natural habit; by doing this we make them healthy, and perform the function so desirable in them to flower well. *This* is the business of the amateur to see to, and may be considered their food and rest, without which no science in Gardening can prosper.

Gardening, as amusement, is certainly one of the most pleasing recreations in existence, possessing novelty, and enthusiasm, and is food to the human mind which softens the passions, meliorates the understanding, and adds days of happiness to that period of our existence which our Maker has blessed us with. The mind is filled with a pleasing excitement, even in the attainment of a new plant, thus giving to science an opportunity of still increasing those pleasures so desirable. The diffusion of a useful knowledge in Gardening is also communicative from one person to another, making our condition as natural beings, more commanding, and developing our ideas as they expand, and more influential in the path of life, even to the most humble part of vegetable physiology. There has been, in most works published, a mystery on the subject of Gardening and the propagation of plants; for why, may it be asked, has this dogmatical system predominated so long? This cannot be answered unless the whole system has been confined too much to certain classes of men, who, instead of endeavoring to create a taste for flowers, have been more studious to check floriculture, unmindful, at the same time, that the more converts gained to the system of Gardening the more plants would be sold by them. The knowledge of cultivating is now becoming better known; indeed, the whole art is in a state of revolution; we cannot turn to any place but we see some of the most beautiful gems of Flora

almost at every house. This is as it should be; ladies will find a solace to their minds in their leisure hours that could not be better employed.

In regard to gardeners in general, in this country, the major part are self-taught: a reflection on this particular subject alone ought to encourage those possessing a natural taste for the science, that the ART is attainable; this will better enable any to cultivate with a prospect of success. The Scotch gardeners are considered the best in Europe; we seldom find an English gardener, on his arrival in this country, capable of conducting a green-house as it should be done. This leads a person to suppose that those *exotics* are only employed in the drudgery of weeding in their native country, and when here wish to pass for *bona fide* gardeners; indeed, most of the experienced English gardeners find their knowledge of cultivation in this country deficient, as the difference of clime and soil varies materially to what they were accustomed to; but a scientific man will soon discover the difference and alter his mode, if not too old in his fixed principles or prejudice.

There are other sciences attached to gardening that makes the system more complete, which is understood but partially in practice, and not at all in theory. I allude to *Botany*, that part which relates to plants; it is a branch that ought to be studied, as it leads the mind to a thorough knowledge of the distinct species of plants, their properties, sexes, order, and indeed the whole system. The ground work of this science leads the mind to a knowledge of many important particulars in relation to flowers. To know how to anatomize flowers is particularly interesting to the mind of the cultivator, though not absolutely necessary.

Study begets refinement, is obvious, and knowledge is essential to the human mind; the food thus created begets friends who seek for information. Thus we find a pleasure in diffusing that usefulness we may attain by a little study. There are but few *Florists* that are *Botanists*. This may appear strange, but it is an incontrovertable fact, when both could be studied at leisure moments without interfering with each other; and if florists understood the fundamental principles of botany many errors could be corrected that are now extant, as the practical botanist is sometimes arbitrary in his rules, which is out of the power of the florist to correct. — *Chemistry* is another branch highly essential to the art of gardening, which will be understood in a general point of view before many years elapse. The farming class will find it necessary to know the *quality of soil he makes use of to ensure success in his department, as well as the practical gardener*. It is not my object to crowd the mind of the young amateur in the art of Gardening, or its requisites, for it is simple and can be managed without understanding the theory of botany or chemistry. I only point out the great desideratum of a valuable acquisition to the mind if these theories could be attained. Educated to those sciences the mind would be elevated above the condition that falls to the lot of practical gardeners, and the field of science would be open to discover things the mind does not now contemplate.

PLANTS.

"I have sweet thoughts of thee!
They come around me like the voice of song;
They come like birds that in the south belong,
And wear a gayer wing, and brighter crest,
Than those that on the roof-tree build the nest
They come more tender, beautiful, and bright,
Than any thoughts that others can excite."

Plants are divided and known as Annuals, Biennials, and Perennials. *Annuals* are such as flower the first season, ripen its seed, and then its functions cease to exist. Of this class of flowering plants we have some very beautiful to decorate the flower garden, at the same time some of the most worthless. To point out any particular variety would be usurping the pen in a delicate cause, as the merits of Flora's beauties are as various as people's tastes; for there are no flowers, however humble, but what possess some intrinsic beauty; but the eye that admires one may dislike another, and that baneful one may be interesting to another person. Annuals are a class of flowers indispensible to the flower garden; their seeds should be sown in March and April; much depends on the season and when wanted to flower. Some annuals will not bear removing, but the generality should be removed, when small, for seedlings; the sooner removed, after out of the seed-leaf, the better, for when the root-fibres are small the seedlings do not feel their removal so sensibly as when large. Then again in the arrangement of plants their different colors and height must be guided by fancy; but to contrast their col-

ors gives them a pleasing effect. The Balsam, China Asters, Petunias, and many others are suitable for pot culture as well as the open ground; these annuals will always be favorites with the lover of good flowers. There are many annuals that are climbers: those should be transplanted where they will show to the best advantage while in flower. There are not less than one thousand annuals in cultivation, and the list still increasing; but of late there has not been many worthy of cultivation added to them, and if one half of the present number were discarded there would be enough left then. From the numerous lists published in the catalogues the amateur must judge for himself in his selection, and by sowing seeds at different periods would enable him to have annuals nearly all the year round.

Biennials are those that flower the second year, ripen their seeds, and then cease to exist. This class of flowers are decidedly ornamental and consist of a numerous family, still not so extensive as annuals, but generally considered more valuable for their exterior beauty and usefulness in the flower garden. There are some biennials that flower the first year, but generally they do not before the second. The biennials do not require their seeds sown so early as annuals. Amongst them are many florist flowers which may be preserved for years by cuttings or slips from shoots that have no flower buds on them. Biennials are divided into classes, such as hardy, half hardy, and tender. The proper time to sow their seeds, like annuals, will depend on circumstances; some so soon as ripe, that is, when they flower early, and seed ripens in the early part of July, such as the Sweet William, and a few others. The general sowing should be in April and May; when of sufficient

size transplanted out to gain strength, and the tender varieties should be potted off in September and housed before the frost sets in; the next season some of the choicest may be increased by cuttings and slips. Biennials, as well as other plants require a good rich loam.

Perennials.—In regard to this class of flowers they are obtained from seed the same as the two former, will never flower until the second year, but instead of ceasing to exist as soon as done flowering, generally increase at the root, thus making a perpetual flowering plant. Many suppose that the perennial sends up the same stem every season; this is not the case; the old stem ceases to exist, this gives room for the increase of the root at a more or less given distance from the original stem; and this freak of nature makes it easily divided and constitutes a perpetual plant. Perennials are divided into two classes, herbaceous and shrubby; the first may be divided again into bulbous, tuberous, and fibrous. The process of increasing them differs materially; the bulbous by offsets and seeds, shrubby by cuttings, seeds, layerings, and slips. The herbaceous perennial bulbs include our favorites, such as the Tulip, Crown Imperial, Hyacinth, Lilies, Crocuses, &c. These should be taken up every season when the foliage dies down, and be replanted again in another part of the garden between the months of August and December. The tuberous perennials compose our finest collections of plants; some should be removed every season, while others should be allowed to remain three years. The Phloxs, Lupins, Asters, Peonies, and many others should be divided every three years, as the nature of the plants will indicate by their growth and disposition, and planted in situations corres-

ponding to their natural habit, in season of blooming, &c., the tallest in the back ground, and endeavor to make them contrast in color and be as much diversified as possible. It is the practice of many to flower bulbs by themselves, such as the Tulip, Hyacinth, &c.; this is certainly a good plan when the collection is large. Bulbs show to good advantage in the border with other plants, but when interspersed with other flowers cannot be always removed when required without disturbing other plants; when this is the case it would be best to top-dress the border and let them remain two or three years, and they will flower well and cause but little trouble, and be still ornamental. Hardy shrubby perennials do not die down, but retain their habit, and many varieties their leaves; these are called evergreens, and are propagated by seeds, and some few by layering. The double flowering herbaceous perennials will not seed freely and must be increased by cuttings or dividing the root in the fall. Fibrous rooted, such as the Carnation and its tribe, more by layering than by seed, and sometimes by cuttings and slips. Take the perennials in general they merit more care than is generally bestowed on them, being easily managed (with the exception of some exotics), and propagated, affording us some of the most magnificent flowers in cultivation. If the perennials do not flower from seed the first season that should be no drawback, we should bear it in mind that when once flowered we may consider them perpetual, and those hardy require little or no care afterward, which is a great desideratum in a large or small garden, when time is an object to a business person.

THE HOT-BED.

"Think'st thou to be concealed, thou little SEED
That in the bosom of the earth art cast,
And there, like cradled infant, sleep'st awhile,
Unmoved by trampling storm or thunder blast?
Thou bid'st thy time; for herald Spring shall come
And wake thee, all unwilling as thou art,
Unhood thine eyes, unfold thy clasping sheath,
And stir the languid pulses of thy heart;
The loving rains shall woo thee, and the dews
Weep o'er thy bed, and e're thou art aware
Forth steals the tender leaf, the wiry stem,
The trembling bud, the flower that scents the air,
And soon, to all, the ripened fruitage tells
The evil or the good that in nature dwells."

The hot-bed is necessary sometimes to force seeds and plants early in the spring; this plan is seldom resorted to by the amateur, as it requires some experience in the management. It may not be the good fortune of lovers of choice flowers to live in a city where market gardeners reside that are in the habit of making hot-beds annually; it will be necessary to give some directions on the subject. To those living in a city more practical knowledge may be gleaned by seeing one made than could be gained by precept. However, to those wishing to make a hot-bed it will be necessary to provide a cart-load of fresh manure from a stable; nearly one half should be straw and hay, what is commonly called *long litter* by gardeners; the whole should be laid in a heap for about a week to ferment, and must be protected from rain; then turn it over, the next day the

same, shaking it well so as to mix the outside with the other; on the third day the manure will be fit to proceed with, the manure having exhausted all the rank heat created in the fermentation; this is termed *mellowing*, and prevents the liability of burning the plants. One load will be quite enough for a frame three feet by four.

In forming the bed it will be necessary to drive a stake to form each corner, the size of the bed which should be five feet by six, this would be one foot wider than your frame every way. The outlines being formed, commence laying on the manure in layers, shaking and mixing it well with the litter as you proceed, and beating it down with the fork evenly, so that the top will be perfectly level; when your bed is complete, it will be about three feet high; then take your frame and place it in the middle, and lay manure all round the frame to near the top, to do which you must reserve enough for the purpose; the object of this is to create all the warmth possible inside of the frame; then put on the sash, and when you discover the heat arise, which will be exemplified by the steam on the glass, begin to lay on the earth in the frame to the depth of four inches, observing that the soil be not wet, or your bed may receive too great a check to answer your purpose, and not return again. This done you can sow your seeds in the soil or pans made for the purpose; pans are more desirable as no risk will be run in having your seedlings burnt, as the pans can be placed on top of the soil, and as the heat begins to subside the pans can be sunk to the rims. The heat of a hot-bed should not exceed 60 Fahrenheit for flower seeds. It will be necessary to examine the degree of heat in the morning; if higher than 60 the sash must be raised a little to give

vent to the surplus steam to prevent accident. In the day time it may be necessary to shade the young plants or give air when the heat of the sun is great, as your bed must be due south for the benefit of the morning sun, and a dry situation is requisite. The glass must be covered with boards or mats at night to keep out the frost; in three weeks the heat of the bed will be diminished; then take away the manure round the sides of the frame and replace it with fresh; this will renew the heat for some time longer; or you can make another bed alongside; by doing so considerable heat will be conveyed into the first, thus receiving the benefit and use of two frames if necessary. Unless the amateur has had some experience in flowers it would be advisable to make a hot-bed of tanners bark, which can be done in the following manner. Sink a frame in the ground about three feet, then procure a load of fresh tanners bark, which should be put under a shed and be turned over often until dry, then fill the pit to within six inches of the top for seed, which must be sown in pans, which should be sunk to the rim; then place the glass over and manage the same as the other hot-bed. There will be no danger of burning the plants, as the heat arising from the bark is gentle and will last much longer than one made of stable manure. Plants that require bottom heat to start them must be so managed as not to interfere with the glass, or the steam and sun will disfigure them.

SEED-SOWING.

"Come, ye soft sylphs! who sport on Latian land,
Come, sweet-lipped Zephyr, and Favoneous bland,
Touch the fine seed, instinct with life, to shoot
On earth's cold bosom its descending root;
With pith elastic stretch its rising stem;
Part the twin lobes, expand the throbbing germ,
Clasp in your airy arms the aspiring plume,
Fan with your balmy breath its kindling bloom,
Each widening scale and bursting film unfold,
Swell the green cup, and tint the flower with gold;
While in bright veins the silvery sap ascends,
And refluent blood in milky eddies bends;
While spread in air the leaves respiring play,
Or drink the golden quintessence of day."

This operation is generally performed early in the spring, and it is absolutely necessary, in the first place to prepare the ground to make it suitable for their reception, in doing which it should be observed that in turning up the soil in the spring for that purpose, never dig but half spade deep, for the soil in the spring is cold, and for that purpose is deep enough; if deeper it would have a tendency to chill and rot your seed. That part of the soil turned up should be well pulverized to encourage their growth; another thing, neither should the soil be too dry or too moist, the one being as detrimental as the other; though if dry could in some measure be counterbalanced with the watering-pot. The state of the soil will depend in a great measure on the time; if early it is most likely to be damp. If the soil be dry after sowing the seed, give it a gentle watering to pre-

vent the wind separating the seed from the soil, which will happen sometimes without this precaution. If the soil be damp nothing more is required than lightly covering the seed by raking the soil over them.

The depth required for seeds depend on the size; some are so minute that to cover them they would never come up, probably rot, while some would lie dormant for years, until turned up to near the surface, and then germinate. In sowing seeds they should be watered sparingly, for if the seeds be old, which is often the case, you will rot them; therefore it is necessary to be cautious in the use of that element. To water seed often with the view to make them come up quick, which is often done, is not judicious; it is the best, generally, that is the longest in germinating; we find this to be the case with the Auricula, and most double varieties, the Balsam for instance. The first and early seeds that germinate are the strongest, however desirable at the time, generally prove the most indifferent flowers, and in most cases single. Those that have been in the habit of sowing and raising seedlings must observe this, and will give their *friends* the *best* and *strongest plants*. There does not appear so much advantage gained in early sowing of garden flower seeds as is attributed to it, for those sown the middle of March will flower about the same time as those sown two weeks earlier, unless forced and kept in the hot-bed; those sown early in the open ground are often cut off in the seed leaf by the early frost, which is the most precarious time for seedlings.

There are many annuals that do best if the seed be sown in the fall and slightly protected through the winter, such as Phlox Drummondii, Rocket Larkspur, Flos Adonis,

Calliopsis, and many others. If a person has the convenience of a pit or frame to protect them the advantage would be great; stronger plants, larger flowers, and better seeds would be the result. For those that prefer sowing early seed it would be a good plan to have a box made for the purpose, to be covered with glass; a light 8 by 10 would be a good size, and would protect seedlings from all danger of being cut off by early frost; or the seed may be sown in pots and be covered with glass, though this plan would be more troublesome than the box. There are some seedlings that will not bear removing very well; we see this in the Poppy tribe; such should not be sown before the last of March, and then where intended to flower.

It must be obvious that planting seed in the ground must be preferable, and covering them with a small frame with glass, for less attention will be required; and if the spring should be wet it would more likely save them from rotting, which, if fully exposed, would be the case; or if a dry spring, would receive much nourishment from the ground. Sow some seed the beginning of March, and again the middle; by this means you may save a few plants of each, or if those sown first fail, the latter may succeed. Annuals generally do not require to be covered deep, excepting the large kinds, such as the Lupin, Pea, &c.; if sown near the surface, the soil being warm and receiving the direct rays of the sun, will more essentially assist the seeds to germinate, for light and due moisture is necessary to their growth; and if too deep, it deprives them of the fundamental principles necessary to make them living plants. A seedling that has forced its way through deep soil is naturally weakened, consequently more likely to be destroyed by early

frost than if near the surface. After a plant is out of the seed leaf it will withstand a heavy frost; this is one important fact and to be observed until plants are safe. Plants are frequently raised in hot-beds; this is generally done when the amateur has gained experience, and then is adopted only to bring forward choice seeds or scarce plants. When your seedlings are ready for transplanting the soil will be in a fit state to dig one spade deep, which should be done to enable the root-fibres to find their way into the ground.

To force seed a solution of *iodine, chlorine, &c.*, is generally considered good for that purpose when difficult to vegetate. To make a solution of one sixtieth part of water to chlorine of lime to steep the seed in, will certainly accelerate their growth. Half an ounce of *muriate of ammonia* to one gallon of water, and applied to seed sown every sixth time of watering, will make them germinate very quick; by such chemical stimuli many valuable seeds are made to grow, and some of the finest plants may be obtained by this means, as the best seeds are so difficult to germinate, particularly as the seed pods producing double flowers are generally supposed to be diseased.

Light is another agency necessary in the germination and health of seeds and plants, though not in the earliest stage; if seedlings drawn up are sickly can it be expected that they will produce good flowers? certainly not! It is only advisable to force such seeds as are difficult, and the forcing agencies to be used should be applied with caution. Then again it will be found that covering seeds with glass has a tendency to force them; the color of the glass is also another powerful agency in stimulating them; purple

and violet are the best colors. This will also apply to cuttings; a bell glass of either color is preferable to white, for the light forced through the prism is separated into different colors, and experience has proven that glass possesses the most powerful chemical action in promoting seed to germinate. As I said before, in the first stage of germination, light is not so essential, though if sown too deep of course the light is too much excluded and the necessary nourishment is exhausted before the seed could reach the light; therefore deprives the function so essential from performing the development of leaves, which are indispens ible to the production of roots, and often perish or remain dormant; turning over the ground often brings the seed within the desired range, and the pumuli ascending reaches the light and germination takes place — growth is best promoted when covered with glass. The influence of light and moisture then preserves uniformity more congenial.

M. Chevreal, a French chemist, has demonstrated many interesting facts in regard to colors contrasted and their effects. There has been some experiments made in England in regard to colored glass, and it is proven there that violet and blue are called chemical rays; green and yellow, luminous; red, caloric or heating rays. The illustrations are not exactly correct. Light penetrating through colored glass partakes, in some respect, of the character of the rays corresponding with the colors of the glass; as blue admits of the chemical rays to the exclusion of nearly all others; yellow admits only the permeate of the luminous rays; that red glass cuts the rays of heat which passes freely. By this means it appears that plants could be raised under almost any light wished for; while yellow and red are de-

structive to germination, for instance, if a pan of seeds be sown and covered with glass, one half with red and yellow laid one on the other the seed would not germinate, while the other half being covered with violet the seed would germinate quick; reverse the glass and the result would be the seed would come up, and those up on the other half would cease to grow. This in some measure corresponds with seeds sown on the surface and exposed to the sun will not vegetate, for a portion of the sun-light which produces the organs of light diffusing its warmth, is destructive to the first process of the vegetation of seed, but if removed into the shade or darkened vegetation then commences. These experiments are worthy of notice, and may prove of use to those fond of experiments. It was attributed to Mr. Hunt as the first person that tried these experiments on the germination of seeds with colored glass, in 1840. I find the late Dr. Morechini, of Rome, made the same in 1838. The late professor of Botany is entitled to the credit of his researches.

TRANSPLANTING.

Transplanting is the art of removing seedlings from the nursery-bed into the open ground; this operation is easier effected in the spring than at any other time through the year, as the spongiolis of seedlings will strike fresh root easier. Transplanting should be done after a shower or in a cloudy day towards evening, and great care should be

taken in removing them to take with them as much soil as will adhere to the roots; then make a hole to receive the plant, place it in, pouring some water to wash the fibres down, then close the hole round the plant; by adopting this plan, instead of watering after, as formerly done, the plant does not feel so great a check. It is almost impossible to transplant without doing some little injury; this will be clearly seen by their drooping appearance for several days after removal; then a reaction takes place, and the plants become vigorous and need no more attention. Sometimes plants removed will require shading when the weather becomes warm and dry; to counterbalance this drawback the plants must also be watered every evening until sufficiently recovered. Balsams, China Asters, and a few other fall flowering plants do best planted into thumb (one and a half inch) pots and kept in the shade until well established, and then transplanted into the open ground without difficulty in the driest weather, for when the weather is dry seedlings become too large to remove, by waiting for moist weather their spongioles will be so abundant and large as to endanger their removal; but if placed, when small, into small pots and kept in the shade, these difficulties would be avoided. When about to remove seedlings observe never to replant them deeper in the ground than they were in the nursery-bed. It is a common practice, when plants are drawn up through bad management, to place them deeper for appearance sake; but following two wrong courses will still make it worse. Plants generally establish themselves the regular way in the ground, and in transplanting this should be borne in mind; if drawn up they will do better replanted in conformity to their growth, and do better than

if planted deeper for the sake of appearance. Young plants the sooner removed the better after out of the seed leaf, provided the weather be favorable. Seeds will keep several years with care, with some exceptions. The China Aster will not keep well over one year; the vitality of most, if kept dry, will germinate in due season, unless the weather should be such as to place it beyond the control of the amateur; but his assiduity will do much in assisting nature in her developments.

MANURING AND POTTING.

There appears to be a great diversity of opinion on the subject of manuring; to point out the existing difference would only perplex the amateur in his operations in floriculture; indeed, it would take an experienced chemist to elucidate the subject thoroughly. The word manure is generally applied to what is taken from stables, whether horse or cow excrements, mixed with straw and other litter; such is not always the case. Manure, in gardening, is meant to convey the idea to enrich and fertilize the soil in the garden; still it must be observed what is food for one kind of soil is not so for another; therefore there is a great difference in manure. If the soil be a marl then the application of sand would constitute a manure to make it friable, that is, suitable to receive plants. There are other kinds that would make the soil useful, which none but a chemist can tell by analyzing it. Horse and cow manures

are good stimulants for the growth of plants in common garden soil, but in no case should it be used unless three years old, or your soil will be filled with weeds. To manure a garden will require some judgment; to manure the same soil every season is as bad as no manure at all; changing the crop is preferable, as some seed will deteriorate more than others; for instance the Rocket Larkspur never ought to be sown in the same bed two seasons in succession. It will frequently happen by over manuring the garden the soil becomes black, and many suppose the soil extremely rich when it is the reverse; so much manure being laid on the soil the water becomes saturated in the soil as to make it so sterile that plants cannot exist in it. When such is the case it will be necessary to use lime as a manure to counteract the *humic acid* contained in the soil, caused by the superfluous use of the stable manure. Manure from the stable should never be used with lime, as one destroys the effect of the other, nor until it has been regularly fermented.

Stable manure is required more plentifully for pot culture, as the frequent watering of the plants in pots will naturally wash the substance from the plants; the frequent watering of pot plants also makes it indispensible to shift the soil often; this is termed repotting which is performed once or twice a year, and the best time to effect this is spring and fall, and the best soil for that purpose is a maiden soil. This is a term used by gardeners, and can be obtained from the commons or old meadows by taking off the turf, then dig three or four inches below; this will constitute maiden soil, and if inclined to clay add a small portion of sand.

Some plants require a richer soil than others; when that

is the case the addition of old cow manure will do. Different locations will make a difference in soil, also in growth of plants; and in potting plants where you find the soil stiff and binding, always add sand to correct that fault. There are different soils used by gardeners, such as peat earth, a vegetable matter decayed, and can be passed through a sieve. Peat bog is such as generally is found in swamps. Sandy loam is loam with a portion of sand in it, and is what is mostly used for general culture. Sandy soil is effected by adding more sand to the sandy loam. Vegetable mould is decayed vegetables and weeds collected in the garden, and thrown in a heap to rot for three years. Garden mould or loam is such as does not contain any sand. Clay soil is not good unless you mix different manures to make it friable, and then not good for pot plants. Leaf mould is composed entirely of decayed leaves, and when mixed with sand is a most excellent soil for pot culture.

In potting plants it is essential in all cases to have a good drainage by placing one inch (much depends on the size of the pot) of pieces of broken pots or small pieces of brick at the bottom to prevent any deleterious effects to the plants if over-watered. In potting plants never over-pot, that is, never place a plant in a pot that is too large; a small pot will force more flowers from a plant than a large one. It frequently occurs in pot plants that roots and suckers will rise from the soil, run some distance and root again. It must not be infered that this arises from the plant being in too small a pot; for instance the Achimenes and Chrysanthemum. The general supposition is, the soil being deteriorated the roots rise to seek nourishment, and when it is attained will strike root again. We have an every day oc-

currence of this in the garden rose, which, if allowed to remain in one place many years, will shove their suckers some distance; the original tree for want of nourishment, the soil being exhausted, will perish; and so it will be found with pot plants if the soil be not changed by some chemical process, and that generally is effected by manure. When the soil is congenial to plants the nutricious sap accumulates, and the plant grows vigorously so long as there remains a sufficiency of food in the soil; but when exhausted we find the plant using its functions to escape from its deleterious soil if that be impossible, and if not repotted the consequence will be death, for the leaves cannot imbibe the gases of the surrounding atmosphere when the roots are sickly, as the one is dependent on the other.

CUTTINGS, &C.

This is an easy way of propagating the different varieties of our fine and most beautiful species of plants that decorate the parlor. There are different methods of striking cuttings, and different seasons that are more congenial for that accomplishment. It is not material which way the object be obtained so long as the *ultimatum* be gained. Some propagators will adhere to the system they have found successful. However, as my object is to instruct the young amateur, I will not discuss this or that system, but exhibit to their comprehension as simple a plan as possible, although not a new one. It will be found in experience that succu-

lent plants are the most easy to strike root; the harder the wood the more difficult. In striking cuttings one thing must be adhered to, as much depends on the manner of preparing the cuttings; for unless cut close to the joint there is not much dependence to be placed in the success of the undertaking, for the bud that you cut close to, when inserted in the soil, attracts fluid which it feeds on; this elongates downward and becomes roots, for it is necessary by nature it should be so before the plant can be established; thus making a perfect plant, the same as the parent from which the cutting was taken. As the roots become set, the cutting sends forth branches, then the root and leaf become mutually dependent upon each other for support and life. The time of taking cuttings is from early spring till fall; different plants require their proper time for propagation; for instance, the best month for the Rose is June, when the young wood is sufficiently ripe; herbaceous plants as soon as done flowering, though for some it will be necessary to take their flower stems before developing the flowers. It would occupy too much space to specify the proper time for all the varieties; but each treatise of this work will exhibit enough for any beginner to commence with, leaving the balance to his own experience.

The best way to strike cuttings of hard wooded shrubs is to procure a box or pan about twelve inches across and the same in depth; then get another about four inches without a hole in the bottom, which may be easily obtained of a potter; placing part of a brick in the larger to keep the smaller one on a level with it in the centre, then fill the vacancy with fine leaf mould and sand in equal parts, well incorporated; this done, insert the cuttings up to the second joint, close to

the small pot; be particular that the bottom of the cuttings comes in contact with the sides, for cuttings of every description will strike root more readily by the side than if planted in the middle of the soil. When your cuttings are all in, fill the small pot with water, which, if kept full, will sufficiently feed the cuttings without watering in any other way, and they will not be killed by too much moisture. In the usual method of setting cuttings in the soil, and watering them, they are very apt to be killed by over moisture; but to set them in the manner recommended, and covering them with a bell glass, which should be taken off occasionally for a short time, too great a degree of dampness would be prevented, and your cuttings would generally thrive. It is requisite in setting cuttings of any description to keep them shaded from the sun; and in the fall when they have taken sufficient root, which can be ascertained by lifting the small pot, they should be potted off into two inch pots, with a rich sandy loam, and remain in them until the following spring.

Succulent plants being easier raised by cuttings, may be set in the following way:—get a pot or box like the one above recommended, and fill it with a composition of leaf mould and sand, then gently water it; take a bell glass and mark its size by pressing it on the soil, then set the cuttings up to the middle joint, having previously prepared them the same as recommended for hard wooded cuttings, then gently water the whole to settle the soil round them; when the leaves are dry put on the glass. Whenever you water cuttings, be sure and never cover them while the leaves are wet if you wish to succeed. When you find cuttings begin to grow, then begin to admit air to harden them. In

striking cuttings that are more difficult than others, resource should be had to the bark bed. Experience will teach more on that subject than I could explain in any treatise.

Budding.—The difference between budding and striking by cuttings in one respect amounts to one thing the increase of desirable plants; the one conveys the roots to the ground, while the other is essentially employed in engrafting itself by uniting to the stem of another, and all action of atmospheric air must be excluded to ensure success; to accomplish this, it will be necessary to examine the bark when it parts freely, which is about July or August, which is the time to perform the operation.

The best stock to bud the Rose on is the Boursalt; when ready to perform the operation, cut the bark across and down in the shape of T, with a budding knife, then lay it open from the cross down, separating the bark from the wood with as much ease as possible; then take the bud intended to be inserted which must be cut about a quarter of an inch above and below the axle of the leaf through a portion of the wood, which must be separated from the bark, and inserted in the part separated, commencing at the cross and slipped down as far as possible, between the bark, without injuring the leaf bud, then take a piece of bass matting about a quarter of an inch wide, previously dipped into water to strengthen it, and bind the wound close, leaving the eye only exposed, and in six weeks, if the bud has taken, slacken the bandage a little and cut the stalk off within two eyes of the bud; by this means the inserted bud will receive enough sap to keep it in a living condition until spring. When the bud begins to push, cut off the balance above

the bud. Budding is preferable to grafting for the Rose, and is much practised by Florists, as every eye will make a tree; by this process the most scarce species of the Rose may be propagated faster than by any other method, and sent to all parts of the world. It will also be found by experience that some varieties of the Rose succeed better by being budded on another stock than on its own; we have an instance of this in the white Bath Moss and the yellow Persian Rose.

WATERING OF PLANTS.

Watering of plants is one of the most essential operations to be performed, and easily done; but being done correctly is quite another thing, for to water plants correctly is one of the principal means of invigorating them, and lies at the foundation of their health. From the manner some plants are watered it is a wonder they are kept alive; they can exhibit from one year's end to another but a very meagre appearance. Pot plants (plants cultivated in pots) should never be kept in a saucer unless the object be to keep the surplus water from the carpet or the floor; but it frequently occurs that when kept in saucers they are watered by that means; such a plan should not be adopted unless the plant be a swamp plant, like the Hydrangea Calla æthiopica, &c.; though there are times when some plants will admit of such a course it will require experience for its successful practice.

In watering plants we should imitate nature as closely

as possible. In the first place we should never use cold water, as it is injurious. After a warm shower we can plainly perceive the vigor imparted to plants, a circumstance not noticeable after a cold rain. In the summer water should be allowed to stand all day in a tub, and warmed by the sun. It must not be supposed that because a human being feels refreshed in summer by the use of cold water, that plants derive the same benefit from the use of cold well or cistern water, for a human being has means of exercise, therefore does not feel any ill effects; but plants are not endowed with such faculties, and therefore suffer from the use of water in a cold state. Therefore water given to plants in summer should be as warm as the soil and atmosphere, or rather warmer than otherwise. Rain, when falling in the summer, if cool, changes the air and soil to a corresponding temperature; this is natural. In the winter such plants as stand in need of water should have it applied sparingly, and the chill should be taken off previous to using it. In the next place it should be observed that our Maker has sent refreshing showers for the benefit of plants as well as ourselves, therefore we ought to imitate him in watering plants, by applying it at the top of the pot, and never at the saucer; for if he deemed it best, he in his infinite wisdom, would have provided it at the bottom of the roots, to ascend instead of descending.

In watering plants in pots we have to be more profuse than rain, for plants in the ground receive some moisture at the roots, and consequently do not need so much as if in the pot. To supply this deficiency we have to resort to artificial means, or they would perish by being circumscribed within so small a compass, without means of ob-

taining and retaining of moisture to support them through the warm summer. How much water plants in pots will require depends on the weather, season, and nature of the plants. In the summer every day; spring and fall not so often; December and January little or none; for at that season plants, generally speaking, are not in a growing state. If the room where the plants are kept be dry and warm, a little may be used to advantage; still it should be remembered that plants may be gorged at all seasons; this may be avoided in some measure by giving the plants a good drainage when potted. It is the nature of some plants to require more water than others; this will be easily discovered, when plants are in a growing state, by the soil at the top of the pot drying up faster than others.

The Camellia Japonica in the winter require much water to make their flower buds swell and expand; it must not be supposed because that plant requires a plentiful supply, that others want as much. The Cacti family, if watered much in the winter, will soon perish; but in its growing season must have its due portion. Plants when in full growth should never be watered close to the stem or collar; the object is to have the water first reach the roots that extend to the sides of the pot. Many tender exotic plants have been killed by frequently watering the collar of the plant, as the watering from a water pot is not so gentle as rain; therefore more likely to be injurious.

Liquid manure is sometimes used in watering plants, but is dangerous to most varieties, unless used by a skillful gardener; it should never be used by the amateur. In early spring and fall, as also the winter, the morning is the best time to water plants, but in summer the evening. To wa-

ter plants and their leaves, when the sun's rays are upon them, is injurious (the Chrysanthemum being an exception); it may be said that the sun shines and it rains at the same time; that is true, but when that is the case the atmosphere is changed at the same time, and thus nature counteracts its ill effects; but with the water pot a corresponding change in the atmosphere cannot be effected, consequently your plants will blister, and be spotted, which proves that watering in the evening is most congenial, and the spongioles of the roots are better prepared to receive the nourishment.

Another custom to be condemned in persons having plants is, their frequently putting them out in the rain during the winter months; this should never be done for the reason that cold rain not being beneficial the water becomes stagnant, sour and rots the roots, for unless the plants be growing it is impossible for them to imbibe the moisture, let the season be what it may, the plants are unable to discharge the surplus at the leaves, the plant becomes sickly and dies, and people are unable to account for the cause, not supposing their own anxiety and *kindness* had destroyed them. More plants are killed by over watering than for the want of it, therefore due caution should be exercised by all beginners in the use of that element.

GENERAL TREATMENT OF PLANTS.

To give a concise direction for the management of all plants in general cultivation would be extending this article beyond proper limits, and be too prolix in the detail to make it interesting. I shall therefore confine myself to but few plants which will apply more or less to others.

In the spring plants can never be placed out of doors with safety before May; even then we are sometimes visited by frost which may do incalculable injury; it is better to err on the safe side than lose valuable plants. If not placed out of doors before that time, the plants should have the benefit of fresh air on all favorable occasions. The Rose is probably one of the most hardy pot plants in cultivation, will bear considerable frost, and may, to save trouble, be planted in the open ground in March and sustain no injury, and be potted off in October and brought into the house. But that management never would suit the Geranium, which should never be placed out before May. The fine varieties are hybrids and very tender in their nature as well as delicate, and will not bear the least frost. Those that have duplicate plants would do as well to plant one in the ground; by that treatment they will frequently flower again in the fall, and may then be cut down, potted, and brought into the house about the fifteenth of September. In placing this plant (Geranium) out of doors it will be necessary to water the ground at times with lime water, to kill the worms, or they will find their way into the pots and do considerable injury to the plants. The pit is not a

good place in which to winter the hybrid variety of this beautiful tribe of flowers, as those plants like a dry room or green-house rather than a damp place.

The heat of the room is the best criterion by which to judge when plants should be watered. Plants should be kept clean by destroying the green fly, and free of dead leaves. In summer no plant should be allowed to suffer for want of water. There are some succulent plants that should never be placed to receive the heavy rains in the summer, the Cacti tribe for instance; but plants of this description are but few. The Camellia does not like excess of heat, and when placed out of doors in May, should be in the shade only; as the leaves are likely to be infested with the red spider they should be syringed with clean water every evening through the summer, and when the flower buds are forming must be watered regularly; for if the roots are allowed to become dry it will cause their buds to drop off on the application of water, or being watered too freely at any time will produce the same injury. This evil may in some measure be avoided in potting plants by a good drainage. Then again their buds will droop by a change of the atmosphere when removed from summer to winter quarters; fresh air should never be denied them when removed into a room. This is applicable to all plants, for all should be inured to their winter confinement by degrees, or they cannot sustain life without. When the Camellia is kept too warm it causes their buds to fall, and also their growth is forced beyond their power of retaining them. Extremes of any kind are prejudicial to plants.

I have pointed out the difficulties attending those which require most care; for all other plants a medium line must

be drawn, where not more fully explained in other parts of this work. To destroy insects, such as the red spider, green fly, &c., that infest pot plants, I have always found whale oil soap the most effectual, to be mixed in the proportion of fifteen gallons of water to two pounds of soap; not stronger, unless to destroy caterpillars. The soap and water should be mixed twenty-four hours before used; may be syringed or used with the water pot; the former is decidedly the best, as it throws the suds with force, and will penetrate where it could not be conveyed with the water pot.

The practice of wintering plants in a bed-room is one that ought never to be adopted, and no doubt is, without due reflection; but when we consider that it subverts one of the greatest blessings our Maker has bestowed on us, *health*, we ought to pause; for the gases emitted by plants lay the foundation for many diseases that are not easily eradicated from the human system.

HYBRIDIZING

"Seek for beauty, if thou wilt,
But mark the quality."

This system has become so well understood that nature appears subjected to the will of the florist. There is certainly something in the ambition of man that leads him beyond the apparent bounds of nature in his endeavors to change

and improve what our Maker has kindly bestowed upon us. Reason and avarice no doubt hava some influence on this principle in subverting those gifts. A question arises when presumptive man, in taking on himself liberties of such a nature, is he acting consistent with the attributes of his Maker or not. When we view the vast fields of flowers that gild this world, and man is found diving into the researches of nature, we feel a palliative excuse for him in assuming liberties in endeavoring to improve those gems that embellish the floral world. The Bees no doubt suggest to the florist the first idea of hybridizing, and as those insects can be seen carrying the pollen on their soft down that covers them from one flower to another, by this means changing the purity of one with that of another, thus converting the order of nature by hybridizing, and on a similar principle is the pollen removed from one plant to another with a camel's hair pencil, thus showing what the insect effects by accident the florist effects on the same principle with the pencil as a system. There are many plants on the Prairies and other places that cross naturally without those agencies, but crosses of that kind are confined more to plants of a like nature, beyond this there is a barrier which cannot be overstepped. The China Pink planted by the side of the Sweet William will cross without artificial fecundation.

The florist in some measure is prescribed in his limits, for he may cross the Peach and Plum, but he cannot convey the pollen of either to the Apple with effect, the constitution of the one will not admit anything of the kind on the other. The greatest perfection of the florist's skill can be exercised with the China Rose, the pollen of which will fertilize with that of any other rose, hence we are indebted for

such splendid varieties. Again, see to what perfection the Cineraria has been brought, also the Verbena Gladiolus and Geranium, and many other beautiful flowering plants. These improvements have created much excitement in the minds of the florist, which makes it difficult to tell when the limit of his desire for hybridizing will be checked.

There are many hybrid plants brought into existence that will not seed, consequently must be increased by cuttings or divisions of the roots, and many that do seed carry a tendency towards the parent plant that in time will return altogether and be lost as a hybrid. The settled constitution of such plants is not to be relied on, for it possesses a weakness, and as its flowers tend to the original parent its strength increases, so that hybrids that cross naturally are of short duration. This may appear strange, but so it is. If we take the pollen of one flower and fertilize another of a different quality, the produce arising from such an experiment would probably bear no resemblance to any raised before, this would be devoid of seed to perpetuate its kind the following season.

It is the practice of a florist when he intends to cross a flower, to cut the anthers out of the blossom early in the morning when the pollen is moist and does not so readily escape, which insures more effectually the performance. Therefore it is necessary for those who wish to succeed in hybridizing, to commence early in the morning. When a plant does not seed well there would be much time lost in the attempt, for instance the Carnation, Chrysanthemum, and many other perennials that seldom seed in this country.

When experiments by crossing are to be performed, the pollen should be taken from the plant early in the morning

with a camel's hair pencil, and placed on the pistil of the other, having previously extracted the anthers, and if effected the petals will fade and drop off sooner than otherwise, but if the experiment is a failure the petals are longer falling, and seldom fall clear, showing the difference in the two flowers. Sometimes the Carnation will seed if the season be propitious, and if crossed the petals will fade before night — otherwise will take ten or twelve days before they fall, thus giving a fair chance for the operator to renew his experiments the following day. When the Carnation seeds without crossing, the seedlings will produce flowers of the original stock a *flesh color.*

Experiments have been tried on Lilies when the hybrid resembled the mother plant in the leaf and stem, and the flowers of the father, so it is with mule Pinks. Many persons are of opinion that soil will affect the color in plants; not so, in some measure the brilliancy of colors may be affected. It is a well known fact that Carnation growers in England, when going to exhibit their flowers for premiums will make the soil rich, with a view to produce fine colors, which often makes them run, that is, instead of having a rich stripe become selfs and worthless; so it is with Tulips and many other florist flowers.

In hybridizing there is something interesting in the system, still it is all chance work, mere speculation; but the mind of man is ever prone to projects, and will be while he finds a solace in anticipation of any nature. The hybridizing of Roses is certainly brought to the *ne plus ultra* of perfection with most of that beautiful variety of flowers.

There can be much effected with other plants, therefore the zealous will find his industry rewarded according to the assiduity he bestows on the system.

AMERICAN COWSLIP

(DEDOCATHEON MEDIA.)

"They shall own thee the sweetest and fairest of flowers,
That smile in the woodlands, or blush in our bowers!
They shall own thee a lovelier gem of delight
Than they that illumine the veil of midnight!"

This very interesting and delightful hardy perennial flowering plant is a native of this country. The leaves are oblong, elliptic, in a cluster nearly flat on the ground, of a light green color, throwing up a scape at the top of which is an umbel of drooping flowers, of a light purple, with the segment reflexed from near the base, beautifully variegated, making it one of the most agreeable border flowers that could be selected, flowering in May. This was named "*Dedocatheon*" (by Linnæus), or the twelve divines; it is generally supposed he selected that name from the number of flowers on the scape; if such was the case we need not wonder at the abortiveness of the name, as the umbels will put forth sometimes as many as twenty flowers. The plant was first discovered by Micheauz, a French botanist, but the late Mr. Drummond was the first to collect the seeds during his researches on the Rocky Mountains, and transmitted them to the Edinburgh Botanic Garden, where the merit

of this (our) native flower is properly appreciated. The American Cowslip is quite common in the western country, more especially on the prairies, where its splendor is most enchanting.

To cultivate this beautiful plant the roots should be divided after their flowering and the leaves die down; if divided in the spring, a plan frequently done, will often prevent them flowering that season. The seed should be sown as soon as ripe, or may be kept until spring; a shady place and moist soil being most desirable, it must be a rich loam. Seedlings should not be transplanted until the second season, and will flower the third.

AMARANTHUS.

"With solemn adoration down the East,
Their crowns, inwove with amaranth and gold,
Immortal amaranth, a flower which once
In Paradise, first by the tree of life
Began to bloom."

This is a very numerous family of ornamental flowering plants, which gives to the flower garden a lively appearance from the month of July to September. The racemes of these annuals are superb, some more so than others. *A. melancholicus* grows about four feet high, flowering all the summer; this plant is better calculated for a large garden, consequently not much cultivated in this country as in some parts of Europe. The color is a rich crimson purple. This

plant, like *A. tricolor*, is not well adapted for a bouqeut, its chief culture being intended for their ornamental appearance and their singularity; the latter is very showy in a large garden, the gorgeous appearance of the leaves are very strikingly showy to the eye. The leaves of this plant being variegated is the origin of its name tricolor, and when in perfection and the sun shining on them, are extremely dazzling. Round the stem are tufts adhering containing the seed. These and most of the species are natives of the Indies. To grow them well the soil should be light and rich; if raised in the hot-bed great care should be taken to protect them from early frost, as all those varieties are tender. *A. globosa* is another beautiful variety, extremely ornamental and more cultivated than the above named variety, and is well known as the "*Bachelor's Buttons.*" If these flowers are gathered before ripe, or the frost nips them, they retain their primitive color all the winter. Of the Globe we have two varieties, white and purple, the latter more showy. There are others, also, considered ornamental, but it would be useless to go into particulars of their description as the family are numerous; they generally flower until killed by the frost. The Amaranthus is one of the oldest flowers in cultivation, as we find them in much esteem by the ancients. The Thessalians decorated their heads with crowns made of the Amaranthus at the obsequies of Achilles. Milton has been lavishing in praise of their beauty in his description of heaven. Pope, and many other poets also sung in praise of the richness appertaining to their beauty.

ARGEMONE.

(PAPAVERÆNA, OR PRICKLY POPPY.)

This is a hardy annual, and the variety consists of not more than six, whose diversity of colors are not very extensive, being principally white and yellow, of erect habit and branching, leaves resembling the thistle. The Argemone is a native of Mexico, flowering from July to August, prefers a sandy loam; the stem is about two feet, not very prepossessing in appearance, therefore not much cultivated in this country.

ASTERS.

"Thou art like some lone brilliant star,
Some planetary light,
That glitters, radiant and afar,
Within the depth of night."

This is a very numerous family of late flowering perennials, all deserving a place in the back ground of the borders. The Aster best known here is a native of this country, called the "*Missouri Aster*," of an azure blue, rather late in flowering, but it puts forth its lively flowers at a season that makes them truly welcome, cheering up the appearance of the garden at a season when all other flowers

are on the wane, making them highly deserving our favor. The stem of this Aster grows from five to six feet high, the leaves linear, lanceolate, entire, fleshy, smooth, and slightly ribbed. The flowers corymbose, scales of the involucrum obtuse, slightly membranous. This Aster and others are easily propagated by dividing the roots in the spring or fall, or by sowing the seeds in the spring, and will flower the first year. The Asters are cultivated extensively in Europe. Mr. T. Rivers has been quite industrious in crossing them, and with considerable success. In his catalogue there are seventeen distinct varieties flowering from September to December, which must appear beautiful at that season. The soil for the culture of the Asters should be a rich loam.

AGAPANTHUS.

(UMBELLATUS.)

This superb and magnificent Lily is a native of Africa, and is treated as a green-house plant, does equally well in a pit or room; was introduced in 1692. The leaves are slightly channelled, long, entire, something like the Leek of the vegetable garden; is evergreen, throwing up a stem about three feet high, with an umbel of beautiful azure blue flowers; the head is not unlike the seed-pod of the onion, exhibiting about one hundred flowers, each standing on a pedicle about one inch long. As the flowers do not expand all at one time, gives the plant a very imposing ap-

pearance for about six weeks. There is another variety with a striped leaf, not so robust in habit, flowers alike, but not in such profusion; also one bearing white flowers, not very attractive. The roots of this Lily are not, strictly speaking, bulbous or fibrous, but inclining in formation to the Leek. This plant is tender, and from the month of November to February requires but little water, when in a growing state a plentiful supply.

The soil should be a sandy loam with a small portion of cow manure. The best time to divide the roots is in October. From the nature and growth of this plant it will require some labor in dividing them, in doing which, if one half of the roots are cut out the plant will not be injured by the operation. The shifting of this plant is often resorted to which is not required, once a year being often enough, and will flower the sooner by being disturbed less than generally practised.

AGERATHUM.

(MEXICANUM.)

Of this variety of half hardy annuals there are but two, *Odoratum* and *Mexicanum*, the stem generally erect, the flowers terminal, irregularly branched, corymb of a delicate blue. The seeds should be sown in March and will flower from June to September. Both are natives of Mexico, and

will grow in any common garden soil. The fragrant variety is the most esteemed for cultivation as an ornamental flower.

ANEMONE.

(ANEMONE CORONARIA.)

"Not a tree,
A plant, a leaf, a blossom, but contains
A folio volume. We may read and read,
And read again, and still find something new,
Something to learn, and something to digest,
E'en in the humble weed."

The Anemone is a species of wind-flower, and is considered a florist flower, was imported into Europe 1596, about the same time as the Ranunculus was. *A Coronaria* is the poppy or garland flower, is a native of the Levant, but *A. Hortensis* is a native of the most elevated parts of the countries in Siberia, Switzerland, Germany, and the most northern parts of the continent, and more hardy than the Ranunculus. The leaves of the Anemone are terminate, segments multified and linear, muricated lobes, stem about nine inches branching, flowers terminal and various, flowering in May and June. The management of one is applicable to the other; the single and some semi-double are held in as high repute as the double, but the colors must be brilliant and distinct. The roots resemble in some respects the roots of ginger, and the flowers have a family resemblance

to the Clematis, and the brilliancy of their colors make them indispensible in all well regulated flower gardens. The following criterion for a fine Anemone is taken from Loudon's Encyclopædia, page 1029.

"The stem should be strong, elastic, and erect, not less than nine inches high. The blossom or corolla should be at least two inches and a half in diameter, consisting of an exterior row of large, substantial, well rounded petals, or guard leaves, at first horizontally extending, and then turning a little upwards, so as to form a broad shallow cup, the interior part of which should contain a great number of long and small petals imbricating each other, and rather reverting from the centre of the blossom; there are a great number of small slender stamens intermixed with the petals, but these are short and not easily discernible. The colors should be clear and distinct when diversified in the same flower, or brilliant and striking if it consist only of one color, as blue, crimson, or scarlet, &c., in which case the bottom of the broad exterior petals are generally white; but the beauty and contrast is considerably increased when both the exterior and interior petals are regularly marked with alternate blue and white, or pink and white, &c., stripes, which in the broad petals should not extend quite to the margin.'

The soil most suitable is rather light and sandy loam, still this plant is by no means tenacious. The best time to plant them is October, and will bloom in April and May, and if shaded will retain their brilliancy for a long time, and if planted in November will flower in May and June. The Anemone can be brought to bloom in any month of the year, but those planted late and protected with

a layer of manure are decidedly the best flowers, and those planted at any other season will degenerate. The roots of the Anemone are generally sold by the ounce, but can be purchased by the hundred if selected by name, which in general is the dearest way. One hundred can be purchased at about five dollars up to fifty. The reason assigned for selling by the ounce is that well grown roots are larger, and the purchasers can divide the roots to suit their fancy, for every piece will generally flower the first season with the same facility as the larger roots.

The Anemone continues growing after the blooming season is over, much longer than the Ranunculus, being more succulent, and should be taken up just before the leaves die down, for if permitted to remain much longer will begin to grow again, and materially injure them for the next season. To raise from seed you must select from the semi-double flowers and manage them the same as Ranunculus, and should never be grown in the same bed often as the soil deteriorates. This family does not contain above two hundred with names, quite enough to supply any reasonable person with all the colors his desire could wish.

ACHIMENES.

"When the wandering eye
Unfixed is in a verdant ocean lost,
ANOTHER FLORA then, of bolder hues,
And richer sweets, beyond our garden's pride."

This is a family of bulbous rooted plants of recent introduction, and now commands much attention by the florist in this country as well as Europe. *A. Longifoloia* is of an azure blue flower, the foliage a dark green and of fine habit, forming a beautiful contrast, growing about twenty inches high and branching. The different varieties all vary in color of the flowers. I do not know of a family of flowers of recent introduction more prepossessing than the Achimenes, all growing easily from cuttings, but is principally propagated from bulbs that form in abundance at the roots of the plant, about the size and shape of a pea. I observe some of the latest introduction the bulbs appear about half an inch long and formed of scales, small, not unlike the burr of the pine. These plants are better calculated for the green-house, as the bulbs require to be planted early and should be forced with bottom heat, either of tanner's bark or stable manure to make them flower early, otherwise it will be so late before you get them to flower that the cold weather would prevent them from developing their beautiful and graceful flowers. These plants are tender and will not bear the least frost, therefore should be always kept in the house. The soil best calculated for the whole variety is a rich soil, principally leaf mould and sand with

a good drainage, as the plant requires plenty of water, still must not be allowed to become stagnant in the pot. The Achimenes will always be cheap, as it increases fast when kept in the green-house; with those not having that convenience it would be best to purchase of the nurseryman in June, when in flower, it would save much trouble and disappointment in bringing them forward. Those who wish to raise their own plants should, as soon as their plants die down, place the pots in a cellar in the winter, but if allowed to get damp or freeze, the bulbs would be destroyed, or the bulbs may be packed in dry sand. In March the bulbs should be potted into two inch pots and placed in a hot-bed, and be kept moderately moist; in three or four weeks the plants will begin to appear. When you discover the pot filled with roots, repot them into four inch pots, which will be large enough for them to flower in, as this plant does not extend its roots far, therefore requires a smaller pot than many other plants, but a larger one is generally used than necessary, otherwise the top would be too heavy for the pot. The time of their flowering will depend on the propagator either late or early, the sooner brought to flower the better, for if late the cold in the fall will stop them. Notwithstanding the difficulty attending this plant, the trouble will amply compensate in their magnificent display of flowers which is very profuse.

AZALEA.

(PULCHRA.)

"There's danger in the dazzling eye,
That woos thee with its witching smile;
Another, when thou art not by,
Those beaming looks would fain beguile."

This beautiful hybrid variety of one of our most interesting species of shrubby flowering plants, commonly called "Pretty Azalea," generally flowers from March to April. The spreading branches of this shrub is thickly covered with brown hair, the lower side more so than the upper. Leaf stalk short, flowers solitary, occasionally two or three terminal. Flower stalk with white hairs, and the calyx parted deeply and hairy. Corolla, bright rose color with red on the upper segments, stamens ten, and the stigma a glossy red. This magnificent flowering shrub is easily kept in a pit, and when wanted to flower should be brought into a warm room.

There is a large family of the Azalea in cultivation much admired for their commanding appearance when in bloom, for when well grown presents one mass of flowers. There is a double variety, but not so desirable as the single, and requires a warm place to make it flower, therefore not suitable for parlor culture, all the single varieties are. The Azalea is a little tender, like most plants indigenous to China, therefore should be kept out of reach of frost; is of easy culture, growing readily from cuttings, taking off the young wood as soon after flowering as grown from four to six

inches long, be sure and cut close to the old wood, then plant the cuttings in a light sandy soil and cover with a bell glass managed as directed for cuttings. In six weeks the cuttings will be sufficiently rooted, and should be potted off and then placed in the shade until established. To propagate from seed it will be best to sow them as soon as ripe, and in the spring when the young plants are of sufficient size, which will be when three inches high, pot them off and treat them the same as cuttings. The proper time to repot the old plants is as soon as done flowering, unless you discover seed pods on them, which should be allowed to ripen first. The best soil to grow them in is a sandy loam, and is also applicable to sow seed in. When your plants are repotted place them in the shade until September, when they should be removed to their winter quarters. The Azalea, during its flowering season, requires plenty of water or its flowers will drop, at other seasons requiring but little.

AURICULA.

(PRIMULA AURICULA.)

"See,
When arrayed in sparkling dust and velvet pride,
Like brilliant stars arranged in splendid row,
The proud Auriculas their lustre show."

This beautiful gem of flora is a native of the Swiss Alpine Mountains, and is supposed to be a variety with Pri-

mula *Helveticus*, *Nevis*, and *Viscosa*. Its original color is orange yellow, not much unlike the English Cowslip, and not over prepossessing in appearance, unless in its pristine state. The Auricula was imported into England in the sixteenth century, and was found susceptible of improvement by cultivation. Since that time much care has been bestowed by florists, and the perfection it has attained is astonishing, so much so that it has become one of the leading florist flowers of England; and instead of the original colors is now one of the most beautiful imaginable. There are catalogues published in London containing several hundred with different names, from fifty cents each up to fifty dollars, depending on their perfection of beauty and scarcity.

It is a matter of surprise that this delightful flower is not more cultivated in this country, for any situation that will preserve the Carnation through the winter would be congenial to the Auricula; indeed I think the Carnation the more tender of the two. Being a native of the Alpine regions of Switzerland, Italy, and Germany, it remains dormant through the winter, being entirely covered with snow, therefore it must be conclusive that any situation that is a little above freezing point is suitable — for instance, a cellar or pit is all the protection necessary. During the months of December and January must be kept tolerably dry. In the beginning of February take some of the soil out of the pot without disturbing the roots, and replace it with fresh, and begin to water, moderately at first, and the benefit resulting will soon be perceptible. The best time to take off the side shoots is in the spring when the plants are in flower, as you can more readily mark the varieties. It is not material whether the side shoots have root fibres or not, as

they will soon strike root at that season, and the spring following will flower. In the summer this plant delights in the shade, and must be regularly watered. The best time to repot is in the month of September, in four inch pots, for this plant will flower better when the roots come in contact with the sides of the pot. The best soil for the Auricula is from the woods, more particularly in the ravines, where rotten wood and leaves are washed, with a mixture of sand or fine stone.

From the works published in England on the culture of this plant, one would suppose it difficult to manage, for the methods advocated by different authors (for each recommends a different soil) only mystify and perplex amateurs, consequently many valuable plants are lost. Reflection should teach us in our experience that it would be more judicious in the management of Alpine plants, to come as near as we can to their native habits, in soil and protection. In almost every cottage in England the traveller's eye is greeted with the Auricula, and it was a gratification to the writer of this, during a tour through that country in 1837, to visit a garden in the beginning of May, at the end of which was a stage of these flowers, about one hundred in number. Words cannot describe the feelings experienced at that moment, when presented to view; being fairly riveted to the spot with amazement and delight. Such a sight never before met my eye, and I believe never will again. I had often heard the beauties of this flower extolled, but never before was their splendor realized; and I may with safety say the recollection will never be erased from my memory. When I regained possession of myself, and viewed the beautiful color of the various flowers, the black, the

brown, the purple, richness of the blue, the brightness of the pink, the splendor of the scarlet, and richness of the crimson; some edged with green, some with white, and others with grey; again others with dark ground, with beautiful white powder sprinkled over the flower, as if the wind itself threatened to waft its delicacy away, and destroy the incomparable beauty of the flower — then again the largeness of the trusses and their fragrance — all these intoxicated the mind with delight. In that collection I noticed the "Conqueror of Europe," price fifteen dollars; "Robert Burns," (Hodges) "Ne plus Ultra," "Champion," "Hero," and others equally valuable; but these were many the most prominent. I have from that time been an admirer of the Auricula.

This plant is extensively cultivated in England by seed, by most gardeners and amateurs, and presented for exhibition, and prizes are awarded to the successful flower. The Lancashire weavers are the most successful Auricula growers, as it appears from floricultural reports. There is some difficulty in getting the seed to germinate if not fresh, as it may occur sometimes that seed will be one or two years before they come up unless forced in a hot-bed. When the seedlings have formed four leaves they should be transplanted into thumb pots, and be kept in the shade and never suffered to become dry, nor be placed where the rain falls, or they will be washed out of the soil. Seedlings will flower the second season. The soil recommended for full grown plants will also do for seed and seedlings.

ACACIA.

"Our rocks are rough, but smiling there
The Acacia weaves her yellow hair,
Lonely and sweet, nor loved the less
For flowering in a wilderness;
Then come, my Arab maid will be
The loved and lone Acacia tree."

The Acacia is a very numerous family of deciduous plants, generally found in all parts of the globe; most of the showy varieties are generally calculated for the greenhouse, while some few are calculated to decorate the shrubbery. The common Acacia, better known as the *Locust*, is a native of this country, and one of the finest ornamental shade trees ever produced; although of a showy appearance in groves or round dwellings, it is not calculated for the confines of a city, as it is subject to the attacks of insects, and then easily broken off by the wind, thus destroying its primitive beauty and majestic form. For a grove or shade in the country it is unsurpassed, and is not ravaged by insects, as the birds feed on and destroy them. Then again the wood is valuable to farmers for posts. Their roots do not extend deep underground, consequently is apt to throw up suckers in abundance, which must be either taken off and planted, or destroyed when young. This tree is not so early as most of our natives in putting forth in the spring; the leaves and flowers appear much about the same time, and the fragrance of the flowers can be inhaled for some distance, so strong and delightful is the odor. The Rosa Acacia, *Robina Hispida*, is certainly a beautiful deciduous

shrub, very ornamental, in the flower garden, generally flowering in a rich loam from May to September, and is hardy. The racemes axillary, leaves are pinnate, and the stem hispid. The flowers are drooping, racemes of rosy pink, the flowers in the form of pea blossoms, clustered and fascinating in appearance, commanding the admiration of persons possessing the least taste for flowers.

This plant is propagated by suckers, or grafted on the common Locust from one to three feet from the ground, according to fancy. This shrub flowers better when grafted than when on its own bottom; not only so but the flowers are larger. These plants should be grafted in the spring; the operation is performed in the usual way of grafting fruit trees. There are some fine varieties from the East Indies which require to be cultivated in the greenhouse. The finest of this species is *A. Laphante*, the blossoms of which are a clear sulphur yellow, of most imposing beauty; even the delicate foliage with its pinnated leaves, which resembles the sensitive plant, is an ornament independent of the external beauty of the flowers. It is somewhat doubtful if this plant would suit the parlor, as the least frost would be detrimental, unless the heat of the room be such as to exclude the frost entirely, and if the heat was not uniform would be also injurious. *A. Saligna*, commonly called the "willow," is another variety, from New South Wales, and was introduced in 1818; not so tender as the other, will grow ten feet high. The leaves are more in the shape of the Oleander leaf, only more blunt at the end, quite entire, the flowers yellow, the seed pod contracted between the seed. There is no doubt this variety would do well in the parlor, being a free bloomer, and will with-

stand considerable frost; this makes it a desirable variety. *A. Oxycedorus* is another still more desirable, and will withstand a hard frost. This plant was introduced in 1824 from New Holland. Branches of this variety spread, the points cernuous, leaves rigid, alternate or in whorls, linear, lanceolate, stipules short, rigid spine, about the length of those at the point of the leaf, peduncles clothed, dense wood. This variety will grow readily from cuttings, and indeed so will most of the Acacias, but some are more difficult than others. It appears that we are indebted to New Holland for some of the finest varieties, and those not so tender as many, though of late there have been some beautiful plants brought from Africa, but are very tender. There are some of this species of ornamental plants in China; the flowers are used as a yellow die, being very permanent, as may be seen by their silks of that color, which are imported from there; but to follow the history and description of this numerous and valuable family of plants would be foreign to the purpose, and this article is now longer than originally intended when first commenced.

BEAUTIFUL NEMOPHILA.

(NEMOPHILA INSIGNIS.)

This plant is of late introduction and better calculated for parlor culture than the open ground, in habit of spreading, the leaves scolloped, flowers cup shape, of a beautiful

azure blue, centre white, does not grow above six inches high, is considered hardy, flowering in the spring. The seeds of this annual should be sown in September in pots, and brought into the house in November, and will flower early. There are two other varieties, *N. Atonaria*, and *N. Discordalis;* the first raised from seed by Mr. Turner of Chalvey, in England, and is a pale blue, striated all over with white, very distinct; and the latter has a black disk with a white edge, extremely pretty.

The soil for these annuals should be a rich loam, and their treatment should be alike. Sow seeds again in the spring for a second crop.

BINDWEED.

(CONVOLVULUS ARVENSIS.)

There is a numerous family of the Bindweed, natives of all parts of the globe. *C. Arvensis* is a perennial runner, a native of England, bearing a rose colored flower in June and July, rather small and trumpet shape. Leaves sagitate, lobes acute, peduncles are flowered, minute bracteæ, distinct from the flowers. This variety does not possess much merit and may be considered the most inferior of the whole tribe. There is another variety extensively cultivated and better known as the "Morning Glory." *C. Major* possessing innumerable variety of flowers of all colors, of great richness. This variety shows to great advantage when

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trained to the arbor or window, affording a good shade while the flowers are imposing to the sight, affording a double incentive to their culture.

C. Minor, is another extremely beautiful variety, well calculated for the border, running about two feet and prolific in flowers. This plant is known as the tricolor convolvulus, the flowers being white, yellow, and blue. The last two varieties are annuals, requiring a rich soil to flower well, and generally flower from June until killed by the frost. There are many others well worthy of culture, but the above are old favorites, and will always retain their position in all gardens.

BALSAM. TOUCH-ME-NOT.

(IMPATIENS BALSAMINA.)

"To mark the matchless working of the power,
That shuts within the seed the future flower,
Bid those in elegance of power excell,
In color those, and those delight in smel;
Sends nature forth, the daughter of the skies,
To dance on earth, and charm the human eyes."

The Balsam, or Touch-me-not, is generally supposed to be a native of England, which is not the case, with the exception of I. Noli-me-tangere, which is found growing in Yorkshire and some other parts, while many others are natives of the East Indies, and was imported as far back as

1596, and even some from Italy in 1564; and *I. Fulva*, the tawny flowered, is a native of this country, and may be found growing about the Niagara Falls. *I. Pallida* is also another indigenous to this country, resembling much the English variety.

The Balsam delights in a humid and shady situation, and is unquestionably the handsomest annual in cultivation. The flowers are formed in a cone, the colors various. The stem erect with succulent joints, from two to three feet high, with numerous branches. The leaves generally ovate, serrated, petiolate. It is observable that this variety of annuals in the hottest weather assumes all *freshness* and *beauty*, at the same time while most other plants are suffering. The reason this plant has been named Impatiens, is from the simple circumstance of the irritability attached to the seed pod, which is formed of fine valves, and when pressed with the finger and thumb spring with great elasticity, and the seed, without care, is scattered some distance. The valves of the seed vessel are larger in the middle, and each valve contains a certain degree of fluid, the outer side, as may reasonably be supposed, is more dense than the inner, and on the least pressure the ends containing less fluid hold together rather longer, which makes the sudden action more sensible in the middle than if all gave at the same time. This is better illustrated by pressing the valves that have not attained maturity, as the action of the movement is not so sudden.

Although this plant has been in cultivation so long its character is but partially understood, for in former days the Balsam was considered a tender annual, but that opinion is fast dissipating; no doubt it arose from the circumstance

that the seed used to be sown in the month of January, in a hot-bed, and the concomitant usually attending was its flowering before it could be safely planted out in the open ground, for it could not stand the chilly clime of England when planted so early. The Balsam started in the hot-bed will unquestionably produce finer colors than if brought forward in the open air, a circumstance contrary to the nature of flowers in general. The great characteristic of the Balsam is a fine double flower with brilliant colors; to obtain this object the desideratum is time and attention, and never sow the seed until *five years old*, for the older the better, and will be more double in their flowers. How frequently is it exemplified before our eyes, when we see these fine ambrosial flowers in a garden, when the amateur begs a few seed, which are sown the next season, under the supposition that they will produce as good, when contrary to expectation, in most cases the flowers are single or nearly so. Whereas had those seeds been kept *five years*, their expectations would have been realized with double flowers.

To raise fine flowers that will produce the richest colors the seed should be sown in a hot-bed in the month of March, in a pan of rich sandy loam, and then placed in the hot-bed. When the plants are two or three inches high transplant them into two inch pots and return them to the hot-bed to strike fresh root. When you find the roots begin to shoot through the hole in the bottom, without breaking the ball of dirt, repot them into one a size larger, giving them plenty of air (but avoid frost) until the plants are hardened, keeping them as near the glass as possible to prevent the plants being drawn up; as soon as you can plant them in the open ground with safety do so. Should you be de-

sirous to bloom them in pots, let them be seven inch size. For a second crop sow more seeds in the open ground in April, and when sufficiently large transplant them to where intended to flower. By this method fine flowers can be produced from June until late in the fall. The first flower buds had better be taken off to make the plants stronger and the flowers larger and more conspicuous in their beauty, which is so agreeable to the eye.

This is one of the flowers nature designed to soothe the mind by its external beauty after our daily toil, which creates in us a secret pleasure in contemplating the works of nature and art. It has often been a wonder to me that the Author of our being should give that portion of the human race (females) a greater love for flowers than our own sex. It must arise from no other source than their hearts being more refined and more open to the beauties of nature. How observable is this truth, for when we wish to ingratiate into their favor (if in the flower season) we think a bouquet the greatest favor to be offered. We are prompted to this by an innate feeling that it is the most acceptable offering to be made. Ladies understanding the language of flowers receive them with more pleasure than the donor for one moment imagines.

BEAUTIFUL CLARKIA.

(CLARKIA PULCHELLA.)

This hardy flowering plant is rather prepossessing in appearance, is a native of California, and succeeds best if the seeds be sown in the fall in any common garden soil. This plant is of erect habit and inclinable to branch; the leaves are long and narrow, flowers four, spreading petals, each formed of three narrow forked lobes, of a rose color, growing one foot high. This plant was discovered by Governor Lewis in his travels through that country. Within a few years the English florists have succeeded in raising a double variety that seeds freely, and is now becoming very extensively circulated, which gives it some importance as a border flower.

BOX.

(BUXUS.)

"Nor BOX, nor lines, without their use are made,
Smooth grained and proper for the Turner's trade,
Which curious hands may carve and seal,
With use invade."

The common Dutch or Dwarf Box is a beautiful ornament in the flower garden, whether we view it as a solitary

plant or round the borders of the bed. There is something lively in its appearance in the summer, and its being evergreen gives life to that department through the dreary months of winter, when scarcely any other plant shows the least vestage of life.

The box is easily propagated from slips planted in March, and will soon root. The next season it should be planted round the borders of the beds so that the leaves will just touch, and not allow more than one inch above ground, and the following season begin to trim the tops so as to make them all one height, and should at no time be allowed to grow higher than five inches when round the border. Box should be trimmed in the spring and fall in damp weather, or the ends will turn color and injure their beauty. It will grow in any garden soil, and will bear removing at any time in the year but mid-summer.

There are other varieties also ornamental in the garden. The common *Tree Box* is a native of Europe and is found in some parts of Asia. In England it has long ceased to grow in its pristine state, and is only to be found under the culture of the florist. There are several places in England where it used to grow, named after it, for instance Box Hill in Surrey, Boxly in Kent, and Boxwell in Gloucestershire. The Boxwood imported from the Levant is considered the largest and best for mechanical purposes, and is held high and sold by weight to engravers on wood, and wind instruments; also for mathematical instrument makers, &c.

CALLA ÆTHIOPICA.

(ETHIOPIAN CALLA.)

This is a much admired perennial and is cultivated to some extent throughout the civilized world, and is treated as a tender plant; the least frost will destroy it. The Calla is a water plant, growing in swampy grounds at the Cape of Good Hope, throwing up a stem in the spring two or three feet high, depending on the age of the plant. The flower is singularly formed of one whorl or vase-like calyx of pure white. The leaves arrow shape, formed at the end of the leaf stem. From July to September this plant should be kept moderately dry, and in September should be repotted into a rich sandy loam, previous to which take off the side shoots and pot them separately. This plant will stand out all the winter in the South if planted in the mud in a pond, about two or three feet from the top of the water; the root will then be sufficiently protected from the effects of frost. This plant, when in the parlor, should be kept in a pan of water, which should be filled every day, as it will discharge a great deal at the tip of the leaves, and should never be allowed to be dry while growing or it will not flower. This plant is increased by offsets which must be treated the same as grown plants.

CATCHFLY.

(SILENE ANGELICA.)

There are several varieties of the Catchfly, natives of England. This annual flowering plant throws up a stem about eighteen inches high, bearing white flowers. The petals are hairy, small, and viscid, crowned, bifid; the calyx have setaceous teeth; fruit ovate and partially reflexed. Lobel's Catchfly is considered the best annual bearing a pink flower; both are ornamental and should be planted together, as the different colors give a pleasing effect when mixed. This plant generally flowers in June, but by sowing the seed at different times will flower accordingly, and if sown in the fall will withstand the severity of the winter, and make strong plants in the spring, and flower early. When the seeds are once sown in the garden they need no further trouble, as they generally sow their own seeds and can be transplanted to where intended to flower, being suited to any kind of soil.

COFFEE-TREE.

(COFFÆA ARABICA.)

This is certainly a delightful ornamental evergreen tree, a native of Arabia and Abyssinia, of easy culture, and de-

sirable for the green-house or parlor. The branches are opposite, gradually diminishing in length as they near the top. Leaves opposite with short feeble stalks, oblong, ovate, acuminate and entire, five inches long, dark green and glossy. The flowers white, sweet scented, and in groups in the axil of the upper leaves, and divided into lanceolate pointed segments. Stamens project above the tube; the fruit roundish, umbellate at the top, changing from green to red, containing two seeds, which are the berries now so extensively used as a beverage.

Coffee was first cultivated at Batavia where the first berries were sent in 1690; from this place a plant was sent to the Governor of the Dutch East India Company in Amsterdam, but the plant did not succeed so well as expected, the climate being too cold. In 1718 it was sent to Surinam, a Dutch settlement in the West Indies; the climate being more congenial it did well, and propagated fast from seed. From this place it was introduced into the different tropical Islands, and soon became established as an article of commerce as well as luxury. The fruit raised by parlor culture does not contain so fine a flavor as the berries imported, setting aside the value of the berries, their beautiful appearance which are abundant at all times, and the fragrance of the flowers, make these shrubs highly ornamental and desirable. The Coffee is easily raised from seed, and will bear fruit the third year if planted in a rich sandy loam in pots well drained, and watered freely, and in winter guarded against frost.

CLEMATIS, OR TRAVELLER'S JOY.

"The Traveller's Joy is a darling thing,
None loveth it more than I;
I've seen it in courtly gardens cling;
I've seen it 'mid rocks and ruins spring;
I know hedge-rows where it's wandering
And I smile as I pass it by."

This is a fine family of half hardy herbaceous flowering plants, natives of different countries, some are sweet scented; and as a pot plant well calculated for parlor culture, running from ten to fifteen feet, which requires a frame of fancy work to show the plant to the best advantage. The Clematis has been in cultivation about four hundred years, and is much esteemed by florists and retains a conspicuous place in the green-house, although it will bear considerable frost. The leaves generally are pinnate, segments smooth, entire, or three lobed, and various form, of rapid growth, the wood slender and shrubby, and is easily grown from cuttings in the spring or by seed; the soil for these plants should be rich. To raise new varieties it will be necessary to have recourse to impregnation, as this variety of plants will not cross by natural means.

To take this extensive variety of trailing plants as a whole it would be difficult to find any more beautiful, or of easier culture, desirable as well as ornamental, repaying the amateur for the little trouble bestowed on its culture. The Clematis introduced by Dr. Seibold, named "*Violet Clematis*," is considered one of the best, of a clear and delightful

purple. *C. Flamula* is a fine sweet scented variety, but the leaves are poisonous and should be kept out of the reach of children. *C. Florida* bears a white flower, also desirable. A few well selected plants of different colors would make a splendid appearance in the window of any amateur in the spring and summer while flowering.

CINERARIA, OR THE CAPE ASTER.

"The youthful season's wanton bloom
Renews the beauty of each flower,
And to the sweet songed bird is come
Glad welcome from its darling flower."

This is a delightful herbaceous perennial and is becoming quite a favorite in the green-house as well as the parlor. Within a few years the florists of England and France have been industrious in hybridizing the old varieties, which are natives of Europe, Cape of Good Hope, and other parts, by these means we are furnished with those delightful hybrid flowers, now so industriously cultivated by nurserymen, with Aster like flowers, developing their lively appearance in the early spring. The leaves of the Cineraria are alternate, covered with a white soft down, the under part of a purple cast, the flower stem from twelve to eighteen inches high, with a fine radient corymb or panicled flowers of spicy fragrance at the extreme ends, some bearing purple, white with a purple disk, others pink, and some white tipped with purple, and many other colors and shades. There are sev-

eral ways of propagating these plants; in the first place by seeds, and the best time to sow them is early in the spring or late in the fall, the dry weather of the summer being rather severe for seedlings of this species of plants unless very careful. The seeds should be sown in a pan or box of light rich soil, with a good drainage; they should not be covered; the soil should be kept moist, and as soon as the seedlings have formed a few leaves should be potted off into two inch pots, and when you discover the pot filled with roots shift them into a pot one size larger; in like manner shift into one of four inch, which will be large enough to flower in. I have generally found the seed saved in this country does not germinate well. I would recommend imported seed, not only for the sake of their vegetative properties, but you may in all probability secure some new hybrid, as the nurserymen in Europe raise such vast numbers in the same green-house that the chance of crossing is decidedly greater than with us, where our collection is limited. This plant is easily cultivated by slips taken off at any season; the most judicious time is September, as these cuttings will make good flowering plants the following spring. The roots of many of this variety, if allowed to die down, will spring up again; and can sometimes be divided. It must be remembered that these plants, though easily cultivated, are extremely tender and soon destroyed by frost. When your plants have done flowering they should be placed in the shade, and give no more water than to keep them from flagging; or you may plant them in the open ground, which will save much trouble, until you take off your cut tings in the fall. The soil best adapted for their culture is

a rich and light soil, and the pots must have a good drainage, and if kept in the shade will retain their colors more pure.

CUCKOO-FLOWER.

(LYCHNIS FLOSCULI.)

This a pretty herbaceous perennial flowering plant, a native of England, where it is found growing profusely along the lanes and road-side. Flowering from April to June, bearing a double flower of a rose color, on a stem about fifteen inches high. The leaves are pinnate, the radicles roundish, toothed, leaflets those of the stem alternate, with leaflets becoming narrower and more entire at the top. The flowers terminate the stem in a raceme near a corymb form. This plant is often sold for *Lychnis Dioica* (Ragged Robin), and is erroneously so named in published catalogues; both are good border flowers, and deserve a place in the flower garden or the parlor. The Cuckoo flower is perfectly hardy and of easy culture, and is increased by dividing the roots in July; each crown must be furnished with root fibres, then planted in the shade to gain strength. This plant is perfectly hardy, although cultivated in the green-house, where it exhibits its beautiful flowers quite early in the spring.

COBEA.

(SCANDENS.)

This is a fine running trellis plant, a native of Mexico, where it is known as *Gedra neorada*, and may be considered the best of its species. The flowers are of a bell shape, at first of a dingy green, becoming a fine purple. The leaves are alternate, equally pinnated, terminated with tendrils, leaflets egg-shaped, acute, quite ornamental in appearance. This plant is perennial in duration, grows freely by seed and cuttings, and is rather tender; it should not be planted in the open ground before May, and will run about fifty feet in the season. The Cobea, if planted by the side of a wall, will naturally catch by its tendrils; still from the nature and disposition of running so much, in wet seasons if not fastened, it will break down by its own weight. If this plant is intended for pot culture, in the summer it should be allowed plenty of pot room, as the roots require it, and the soil should be a rich sandy loam. As this plant strikes freely from cuttings it should be planted in the open ground in summer, and in September take cuttings, which will strike quick under a bell glass; they can then be potted off and kept easily in a pit or the house. The culture is easy, the plant fine, and worthy of cultivation, especially with those who have plenty of room, affording a good shade, besides its floral beauty.

CACTUS.

(CACTI.)

This is a fine succulent variety of plants, of very singular appearance, natives of Brazil, and is found on the arid plains of Mexico and other parts, particularly in sandy and rocky situations; perennial in duration, of rather tender and delicate nature, though of easy culture; but is, strictly speaking, a green-house plant, and will survive our winters in the parlor if not allowed to freeze or watered too much. The generality of the Cacti do not like a damp situation in the winter, therefore not calculated for pit culture.

There is now in cultivation about one thousand varieties beside hybrids; the flowers of some appear in March, are certainly magnificent but not fragrant; still their beauty shows to great advantage when kept by themselves in a green-house. There are some of this tribe called "Night Blooming Cereus," that flower at night, highly odoriferous, but their flowers last only one night. The one called *Grandiflora* is a magnificent plant, a native of South America; when the corolla is fully expanded in the evening the beholder is greatly surprised with the size of the floral development, which will measure about twelve inches across the color, on the inner side of the calyx; is a beautiful clear sulphur yellow, while the petals are a virgin white; the stamens not easily described, for it appears of different colors as you change your position to view its beauties. The flower is not only beautiful but the fragance is so

great as almost to prevent a person approaching it in a confined room.

The seed pod of the Cactus resemble in size and shape a large red gooseberry when ripe, and is eatable; the flavor is between the strawberry and pine apple. The seed should be rubbed out of the pod when dry and planted in sand, and will soon make their appearance; when of sufficient size pot them, but withhold water from them for several days. The soil for grown plants should be a coarse sandy loam, and the plants should be well drained; from August to January will be a good time to repot; during that time they should have but little or no water, much will depend on the situation of the room where kept. The Cactus is easily raised from cuttings taken off in the spring, but should not be planted for several days, even then should not be watered until the plant begins to grow. This succulent plant is easily grafted by cutting a slit in one variety and sticking a piece of another in the place, cut like a wedge; this should be done in the spring; and there will be no need of using grafting wax as the graft will grow without difficulty, and bloom more freely than when on its own bottom. There is a large variety of the prickly pear the best to graft on, and it is frequently the case we see four varieties grafted on the same stalk, and when in bloom the contrast of colors give a pleasing appearance.

CENTUREA.

This a large family of plants, natives of different parts of the globe; the greater part are considered ornamental, bearing flowers from June to October. The neatest of this variety is the Sweet Sultan, a native of Persia. Of this variety there are three, white, purple, and yellow, growing about eighteen inches high. The involucre roundish, smooth, scales egg shaped, and the leaves lyrate and toothed; will grow in any garden soil, but thrive best in a sandy loam.

CHINA ASTERS.

(ASTER CHINENSIS.)

"How lovely! how commanding! but through Heaven
In every breast hath sown their early seeds
Of love and admiration; yet in vain,
Without fair culture's kind parental aid,
Without enlivening suns and genial showers,
And shelter from the blast; in vain we hope
The tender plant should rear its blooming head,
Or yield the harvest promised in its spring,
Nor yet will every soil with equal stores
Repay the tiller's labor."

This well known variety of Asters has been cultivated a long time. and its incomparable beauty has established it as

one of the most desirable annuals we have in cultivation. The German florists have paid more attention to this tribe of Asters than the English, the former being more assiduous to its real merit, and established a name, "German Aster" that will be at the head of annuals to time immemorial. The improvement is not only in size, but we see them beautifully quilled and more splendid than the original China Aster, making them almost a distinct species, and in all about thirty varieties.

"All its hues,
From the rich sunset to the rising sun,
Their magical variety diffuse."

I should suppose, out of the number in the English catalogues, there may be about sixteen distinct colors selected; for when so many are advertised it must necessarily occur that the similitude in some must be great, for unless one is a judge of colors the difference could not be perceptible. This Aster flowers in August and September, and in favorable weather until October, when the embellishment of their beauty and regularity of form is not to be surpassed by any annual in cultivation. The leaves are ovate, coarsely toothed, stalked, the cauline leaves are sessile, cuncate at the base; the stem is bifid and branching, with a single head; the flowers various and quilled, giving them a gorgeous display that approximates to perfection, making them appear to the eye all that is magnificent. There are no encomiums my poor ability could pay but what would appear insignificant to their deserved merit.

To cultivate this flower, if you wish for early ones, the seed should be sown in a pan of light soil, and be placed in

a hot-bed in the month of March, and when sufficiently large transplant into two inch pots and return them to the hot-bed to be re-established, and these plants can be either transplanted, without disturbing the roots, into the open ground, or if intended to be flowered in pots you must continue to repot from time to time, as the roots fill them, until you come to five inch pots, the one intended to flower in. For a second crop you must sow the seeds in the open ground in April, and transplant them into a bed prepared for their reception. It would be advisable to make the following compost, if you wish extra flowers, but will grow in almost any soil; one bushel of good garden soil, one peck leaf mould, half peck old manure, three quarts sand. These ingredients should be well incorporated and laid in a heap for some time prior to using it. You can either put this compound in trenches in the garden, or in flower pots, and great attention is required to keep this plant well watered in dry weather.

CRAPE MYRTLE.

(LAGERSTRŒMIA INDICA.)

This is a fine half hardy favorite shrub, a native of the East Indies, requiring little or no trouble, will grow twenty feet high in the Southern States, and will stand out all the winter if protected; is readily propagated from cuttings planted in the ground in spring in a shady situation, and

kept moist. This shrub is cultivated in the South, in the open ground, and will grow in any garden soil, and flower to great perfection through July and August, bearing a bright pink flower of a singular and pleasing form, of a light texture, much like a piece of crape, hence the name "Crape Myrtle." With those who have not the means of protecting this plant in the open ground, they can pot them in the fall and place them in the cellar, being deciduous do not feel the removal. If cultivated in a pot, the soil should be a rich loam, and must be potted and pruned every spring.

CANTERBURY BELL.

(CAMPANULA MEDIUM.)

"Blue Bell! how gaily art thou drest,
How sweet and trim art thou, sweet flower;
How silky in thy azure vest,
How fresh to flaunt at morning's hour."

Of this variety of herbaceous and deciduous biennial plants there are two varieties of single flowers and two double, blue and white, fine ornamental border plants. The stem is simple, diverging; the leaves lanceolate and serrated, sessiles viny, peduncles axillary, three flowered and terminal, grows about two feet high, the flowers bell shaped; the blue is azure, rich in color; the white extremely pure and chaste. All the varieties have been great favorites from the time first imported from Germany to the present

time. This plant will grow in any common garden soil; the seed should be sown in April, and be transplanted either when small or in September, to where intended to flower, and will withstand the rigor of the winter without injury, and in June and July will exhibit their beautiful flowers. This plant will do well if cultivated in a pot, and show to great advantage in the parlor.

CROWN IMPERIAL.

(FRITILLARIA IMPERIALIS.)

"Meantime, the grandeur of thy lofty dome,
For splendor seizes on the ravished eye
New beauties rise, with each revolving Spring find
New plants to quicken, and new groves to green."

This is a bulbous rooted plant of a majestic appearance, bearing large flowers in March and April, throwing up a stem two feet high, naked below; the leaves entire, with a whorl of flowers near the top. This is one of the early flowers commissioned to grace the appearance of the flower garden early in the spring; embellishments like these are truly acceptable. There are several varieties graceful and majestic in appearance, serving to heighten our sanguine expectations at the approach of spring. The most common is the red; the yellow most showy, exhibiting its beautiful corollas at a distance, creating our applause by its embellishment and pomp. The common variety has but one

whorl of flowers near the top, forming a crown; hence the name of the flower. We have the crown on crown which consists of two whorls of flowers, and crown on that, consisting of three whorls of flowers; the latter are scarce and dear. In making a selection get the red and yellow and you will have distinct varieties; not so with many with names, for in some will be but a shade in color, and that barely perceptible; or may be some difference in habit of no moment in the common course of cultivation. This flower, until of late, has been called "Crown Imperial," but is known now as *Fritillaria Imperialis.* This plant is an old and acknowledged favorite, was introduced into England before the time of Shakspeare, as the following lines will show, which I extract from his Winters Tale:—

> "Bold oxlip, and
> The CROWN IMPERIAL; lillies of all kinds,
> The fleur-de-luce being one."

No doubt he mentioned this flower, being influenced by its conscious beauty in enlivening the prospect of our spring. We are indebted to Germany for this splendid acquisition to our flower garden, which affords a secret satisfaction on beholding its development at a season when the garden is nearly deficient of floral beauties.

This plant is easily propagated by offsets, and will grow in any common garden soil. The best time to remove the bulbs is when the stem dies down in June, or they may be allowed to remain in the ground for two or three years, but is best taken up every season and packed away until October. If allowed to remain they will deteriorate the soil, which ought to be avoided in a small garden. If these

bulbs are planted in the border they will ripen in time to plant the Dahlia in the same place without inconvenience; by this plan you will secure a second crop of flowers on the same ground in the same season, which is an advantage in a small garden. If this plant be increased by seed, they should be sown in the open ground in September, and should not be removed until the third year, and then be treated the same as old bulbs.

CALCEOLARIA.

"Yet no deleterious scent it yields;
To cheer the garden or the field,
Vainly in gaudy colors drest;
'Tis rather gazed on than caressed.'

This florist flower was first introduced into France by one Louis Fenillie, a botanist, in 1414. In England this plant passed under the name of "Ladies Slipper," or "Slipperwort;" their primitive color is a yellow, but in 1829 the purple was introduced from Chili, in South America, where that plant abounds, and is indigenous to some parts of this country. Both the shrubby and herbaceous varieties are greatly admired. From the old varieties many new hybrids have been added to the collection, presenting rich velvety corollas, quite enchanting; and their effect in the green-house is beyond description. This species of plants are very delicate, and require much care and attention; although beautiful in appearance these plants will never be

common, for the care and delicacy required in their culture will be a preventive. I would not recommend them to amateurs on that account. I am induced to do this from a conviction that the disappointment so often met with in their culture will serve to mar the hope or pleasure, than create a taste for other flowers; perseverance is a great thing, and and ought to be cherished, but difficulty and disappointment will ever be a drawback to this species of plants.

The Calceolaria is propagated by seeds, cuttings, and division of the roots. The seeds are very small, and should never be covered nor watered with the water pot, the syringe being preferable, which can be played on the pan of seeds like a gentle shower; the pan should be kept in a bark bed, the heat being so gentle and steady that every seed will germinate. When the seedlings are of sufficient size transplant them into small pots. The soil most suitable is a maiden soil, with one sixth part sharp sand. By division of the roots, July is the best time; in the division let each crown be furnished with root fibres sufficient to imbibe a proper nourishment. To increase by cuttings, July is also the best time for the shrubby kinds, and will root freely in a bark bed well shaded, and moderately watered; or may be struck under a bell glass. The Calceolaria, generally speaking, is very delicate and ought to be shaded from the intense heat of the sun in the summer, but in the winter season will require it in the morning. There is a discriminating judgment necessary in its culture, and particularly in watering, for too much is equally as detrimental as the want of that fluid. When this plant is infested with the green fly it must be fumigated with tobacco, and the next day syringed well all over, or your plant will die.

CHINESE CHRYSANTHEMUM.

(CHRYSANTHEMUM INDICUM.)

"For him the spring
Distils her dews, and from the silken gem
Its lucid leaves unfold — for him, the hand
Of autumn tinges every fertile branch
With blooming gold, and blushes from her wings;
And still new beauties meet his lonely walk,
And loves unfelt attract him."

This is one of our late and most desirable fall flowers; desirable because it expands its beautiful flowers at a time when others cease to cheer us, thus shedding an agreeableness around our rooms, enlivening the monotony of the gloomy months of November and December, making our existence appear cheerful despite of

"Stern winter, clad in frost and snow."

This plant is indigenous to Cochin-China, and cultivated in the gardens in Japan. The first account of its introduction was into France in the year 1754, and the following year it was imported into England; even these were but indifferent flowers, compared with those in cultivation now. Such was the sensation created by these flowers, that no expense was spared to improve the quality and quantity. The Chinese had about fifty kinds which were cultivated by them to great perfection; large flowers being their principal aim, and they never permitted more than one flower to grow on a stem. Some of the Chinese fastened their

stems with a wire, in as many different forms as the nature of the plants would allow, and a stranger at a little distance could not account for their symmetry being kept in such a position. In 1808 Sir Abraham Hume and others introduced eight new varieties of the finer quality. When we consider how badly this plant bears packing, we need not wonder at their not being introduced faster into Europe than they were. There has been a great change in this fall beauty of late years; we are no more dependent on China for new varieties, as they are brought to seed in France, the Isle of Jersey in the British Channel, and in this country. From this circumstance new varieties are raised every season. It is with regret that the quantity has elicited more enthusiasm than the quality; therefore it is most desirable for persons to purchase when in flower, unless you take varieties that have proved good flowerers.

The Chrysanthemum is divided into the following classes: — Ranunculus flowered, 13 varieties; in-curving Ranunculus, flowered 6 varieties; China Aster flowered, 6 varieties; Marigold flowered, 7 varieties; Tassel flowered, 11 varieties, and half double Tassel flowered, 5 varieties. There are 48 varieties described in the Horticultural Transactions in England, and additional varieties arranged in the Gardener's Magazine. I do not know a flower that is more calculated to please any person that has the least taste for flowers than this, for we find it in almost every family, and is the poor as well the rich man's flower. Being easily cultivated makes it rather common, but does not impair its beauty, or, like most common flowers, lessen its value in the mind of the public, if it does the price. From the number of fine plants now in cultivation, a person can be fur-

nished with first rate varieties at a moderate price. I notice most of those plants cultivated five years since are thrown away to make room for better ones. Many who possess these plants, I discover, do not understand their culture to advantage, and yet no plant is more simple. Many will endeavor to produce the most flowers by planting more than one in a pot, and by this means defeat the object.

The best plan is, at the end of April to take cuttings from the tops, three or four inches long, and plant them in two inch pots, one in each, and place them in a frame and cover them with glass, or in a shady place, and water them freely; they will soon strike root, and when the pot is filled with roots repot them into the next size; repeat this until the pots are six inches, which will be large enough to flower in. In July pinch off the top; this will cause them to put out lateral shoots, and in August trim off all the laterals but three, which will be sufficient for one pot, as these will also put out laterals which should be permitted to grow. The proper soil to raise Chrysanthemums in is one half old manure, one half loam, with a portion of sand, the quantity will depend on whether your loam contains sand. If you plant them in open ground do not take them up until the buds are well formed, and in damp weather. Planting in beds is a good plan, and will require no attention being paid them all the summer, more than topping and trimming. You must not let them remain in the ground for the early frost to injure their buds. Fine dwarf plants are obtained by pegging them down at a joint in July; they will soon strike root, and be fit to pot in the middle of September, and then brought into the house. Chrysanthemums, if planted too close, whether in the ground or pots, will drop their

leaves; or if brought into the house too early the effect will be the same; therefore keep them out of doors as long as the frost keeps off, and you will find your labor well paid by a splendid display of flowers.

This plant is a greedy one, and requires a deal of water, and such is the nature of the plant that you may water the foliage in the middle of summer when the sun is shining and it will appear to thrive the better, which is contrary to the nature of other plants. Many will water this plant with liquid manure, but I would not advise it unless by a person of some experience, as the plants may be burnt before you are aware of its tendency. I once saw a valuable collection destroyed this way, which makes me add this caution. The Chrysanthemum is sometimes propagated by dividing the roots; this should be done in June, but the plants raised this way are never as good as those by cuttings, nor their flowers as fine.

CROCUS.

This is a bulbous rooted plant, perfectly hardy, and of easy culture. This family is composed of a great variety of sorts and colors, all natives of Europe. Their complication of colors in the early spring gives them a most agreeable and imposing appearance, particularly as it is one of the first flowers; is easily propagated by offsets or seeds, and will grow in any garden soil without difficulty.

To propagate from seed it is important to sow them as

soon as ripe, in a pan or box, broadcast; the seeds should be lightly covered and sprinkled with water and placed in the garden alongside of the wall, giving them a southern aspect, and keeping them moist until late in the fall when the pan or box should be removed into a pit until the spring. When the leaves appear, move them into the garden, protecting them from heavy rains and sudden frost. In May, when the leaves die down, take off a little of the surface soil and put fresh in its place. The third year take them up and treat them the same as full grown corms; the next year you may expect them to flower. The Crocus is generally increased by offsets, which it will produce abundantly, and in most cases will flower the following season. The object in raising from seed is to produce new varieties, but the operation is somewhat tedious, and not advisable, as there are as many varieties now in cultivation as will satisfy any reasonable person, for there are now in cultivation one hundred and twenty with names. The whole variety, one of each, can be purchased in England for one dollar and fifty cents.

The Crocus does very well planted between the rows of Tulips, or in clumps in the border, diversifying the colors so as to make a contrast. The bulbs or corms should be dibbled in about two inches deep, and may be allowed to remain in the ground three years, and does well if the season be dry, if rainy will be apt to rot. I have always found the best and safest plan was to take them up dry, and pack them in sand until October, and then be planted the same time as other bulbs. It is frequently the case that many bulbs are brought to this country from Holland, and kept for sale at seed stores until spring; persons should be cau-

tious in purchasing them after November, although their appearance is good; if planted after that time they will, in most cases, rot, as the ground is then too cold to assist them in striking root; that being the case, they will either rot or flower weakly and die at last; it is like a man that has been so long without food that nature has exhausted and injured the vital part, nothing could restore that animation necessary to create or reinstate again the proper function to restore life. Bulbs of every description, if sold after the proper season for planting, are dear at any price, therefore purchase them at a proper season if you have to pay a higher price; still you will find them cheapest in the end.

CANDYTUFT.

(IBERIS AMARA.)

This annual is an ornamental herbaceous plant, found growing in the chalky fields in England; flowers in general during the months of June and July; by planting the seeds at different periods they can be brought to flower during the whole summer. The leaves of this pretty ornamental border flower are lanceolate, acute, variable in the toothing. The flowers forming a head, becoming racemous, the husk being well formed, will drop the seeds, if precaution be not taken before all the flowers expand; thus making it absolutely necessary for those who collect seed for sale to cut the stalk before two thirds of the flowers have

expanded. There are some varieties of the Candytuft, natives of Candia, sweet scented and very desirable.

This plant grows best in a rich soil, and if the seeds are sown in September, the plants, with a light protection, will survive the winter, flower earlier and more luxuriantly than if sown in the spring. Those kept through the winter will sow their own seeds and flower in the fall, thus securing the second crop of flowers in one season. This plant is a valuable hardy annual, well calculated for any garden.

CHINA PRIMROSE.

(PRIMULA SINENSIS.)

"The piercing primrose, like sudden gladness,
Gleams on the soul."

This is a very desirable perennial evergreen, of late introduction, flowering from January to May, and is one of the first plants to cheer the green-house or parlor, making it one of the most welcome flowers we have, possessing much merit as a showy flower, setting aside its claim as an early one. There is a double variety in England, highly spoken of, which will soon find its way into this country. This plant differs widely from the English Primrose in color as well as habit. The leaves of this variety are pninate, stem about three inches long and hairy. The scape about five inches with a truss of beautiful pink flowers to the number of twenty or thirty, if well grown. There is a white vari-

ety very showy; both are well suited for the bouquet with the Camellia, Pelargonium, in the early spring. When this plant begins to flower, it should be placed in a saucer of water, and it will bloom profusely through the season, but should be removed as soon as the plant begins to flower weakly.

The China Primrose is increased by seed and by cuttings; if by seed the best time to sow them is as soon as ripe, in a rich soil, and when three or four leaves are formed they should be potted off into small size pots, and be shifted as they increase in size. To increase by cuttings, as soon as the plants have done flowering, cut each stem as near the pot as possible, into as many pieces as there are crowns, plant them in a light rich soil in pots well drained, and place them in the shade; keep them moist, and each will root and make good flowering plants in the spring. In September each should be potted into five inch pots, and be removed into their winter quarters. The soil best suited to this plant is one half leaf mould, the balance sandy loam and old manure from a cucumber frame. This plant is tender and must be guarded against frost; the trouble attending it is but little; it is a most profuse bloomer, and every way desirable for parlor culture, and should be prized as such.

CHRYSANTHEMUM.

(ANNUAL.)

Of this beautiful variety of garden annuals there are three of rather prepossessing appearance. The one called the "Ox-Eye-Daisy" throws up a stem three feet high. The leaves are smooth and of a deep green color; the flowers solitary and terminate, stem branching, generally flowering from May to August, seeding freely, and will grow in any garden soil; the seeds should be sown in April. "The Corn Marigold" is another variety of a more dwarf nature than the other, striated and branching. The leaves are alternate and varying in shape; the branches terminate with large yellow flowers. Peduncles upright, calyx convex, scales ovate, glaucous, the inner ones with large membranous edges. This plant is also known as the *Golden Corn Flower, Yellow Bottle, &c.*, which arises from its beautiful golden color and brilliancy of appearance in the flower garden. Then we have the Tricolor, a native of Morocco, which also grows readily from seed or by cuttings, and will flower from July to October.

When this variety was first introduced into Europe, in 1796, it was treated as a tender stove plant, but like the others it is now treated as a half hardy annual, and may be recommended as a fine garden variety of flowering plants of easy culture in any garden soil, and of showy appearance.

CAMPANULA.

(PERSICIFOLIA.)

"The blue-bell by the meadow rill
Is not more fair than thou,
With thy downcast and thoughtful eye,
Thy pure and gentle brow."

This Campanula is a valuable appendage to the flower garden as well as the parlor, and is well known as the "*Peach-Leaved Bellflower*," and what makes it more desirable is, it will stand out of doors, if in the ground, all the winter, being perfectly hardy. The stem grows straight, about eighteen inches high; when in the open ground strong plants will attain two feet. This plant flowers in a thin spike of one and two together, on a long peduncle which has two stipules at the base. The corolla large and broad, bell shape, deep blue; the segment short and acuminate. The leaves similar to the peach, only more serrated. This perennial is a native of Sweden, and has been in cultivation in Europe ever since 1596. There are two other varieties, blue and white; the latter more double than the former, which has not been cultivated over sixty years.

These plants require a rich sandy loam, and are increased by dividing the roots in the fall. This Campanula, with good treatment, will flower nearly all the summer, and if kept in the shade the flowers will last much longer. Every lady should be furnished with this plant, it being ornamental, of easy culture, and moreover, being evergreen, their appearance is always interesting in the parlor as well as the flower garden.

COLUMBINE.

(AQUILEGIA.)

"Yes, lovely flower, I find in thee
Wild sweetness which no words express,
And charms in thy simplicity,
That dwell not in the pride of dress."

This splendid deciduous herbaceous plant is a perennial, and bears flowers of innumerable colors from May to July; it is a native of this country and Siberia. Its habit is extremely graceful, growing about two feet high, throwing its flowers well up above the foliage, which is covered with a viscid down, the spurs of the flowers incurved, giving them a very interesting appearance. This plant, from its easy culture, has established a merit possessed but by few border flowers. The seeds should be sown as soon as ripe, or early in the spring, in any common garden soil, and transplanted in September. The flowers are well calculated for bouquets in their season, on account of their grace and beauty. This plant is sometimes propagated by dividing the roots in the spring, which often kills them, a plan not advisable with a good flower. The Columbine sports, and therefore produces, a great variety of colors; the single variety is not worth garden room; the second season is considered the best for flowering, being more abundant than any other year. When these plants are grown, innumerable seedlings will spring up from the scattered seeds, which should be transplanted as directed.

CARDINAL FLOWER.

(LOBELIA CARDINALIS.)

"Sweet flower! for by that name at last,
When all my reveries are past,
I call thee ——."

This beautiful perennial is a native of this country, growing and blooming to great perfection in swampy places in Indiana and Ohio, and other parts; it attains the height of two to three feet, bearing a spike of flowers of a bright scarlet in the month of July, and even to September. Such is the brilliancy of the colors, that the eye is dazzled with their splendor when the sun shines on them. It is surprising that this plant, a native, and of such beautiful magnitude, should not be more noticed than it is. In Europe it is grown to great perfection; it is easily propagated by seeds or cuttings of the flower stem before flowering, and by suckers at the root in the fall. Seeds should be sown in the fall or early in the spring, in a pan or box; the seed should never be covered with the soil, and the soil should be kept damp, and a rich loam is necessary to grow good plants. When the plants appear in the spring they should be kept in the shade to gain strength; when of sufficient size, which will be in May, the plants should be potted off. To propagate by cuttings, it should be done before the flowers expand, by taking the flower stems and cut them into suitable lengths, say two or three joints, stick them into a pan, and cover them with a bell glass, and admit air

as the cuttings begin to grow. To divide the roots or suckers, the fall is the best time; protect them through the winter in a pit. This plant is naturally hardy, but protection is best for those in pots. In the latter part of March, bring them forward and place them in a saucer of water; being a swamp plant they should be kept as near its natural state as possible, guarding them against the spring frost, and you will be rewarded with one of the finest displays of flowers in cultivation. This fine flowering plant, if the production of some foreign country, would be one of our leading pot plants; being a native, the florists of this country do not appreciate its merits.

CARNATION.

(DIANTHUS CARYOPHYLLAS.)

"E'en then she seemed a lovely flower,
Though fragile was the stem;
She stands in beauty's garden now,
Its proudest diadem."

The Carnation is an old established perennial of high reputation; it is an evergreen herbaceous plant, flowering in June and July; stem branching, flowers solitary, the leaves channelled and linear, possessing all the attributes necessary for a florist's flower, at the head of which it stands pre-eminent. This flower was long supposed to be indigenous to England, but of late its parentage is attrib-

uted to Germany; although its having been found in a wild state in some parts of England, is not sufficient proof, as the seed may have been dropped by accident. There are more grounds to suppose at this date that little is known of its wild state, for the first notice to be traced of this flower is that it was imported from Poland in 1597; even in that country it cannot be traced; Germany being the nursery bed of so many beautiful flowers, I have no doubt that country is the origin of it, from whence it found its way to Poland, from thence to England. From the first introduction, this plant established an unrivalled merit as a first class flower, and may be considered one of the greatest gifts for the flower garden, notwithstanding there are many productions which nature has created for the enjoyment of mankind; their fragrance is a gratification unsurpassed, to our senses; the graceful appearance of the flowers is all that is dignified, giving unlimited satisfaction to the eye in their beautiful arrangement of colors which are so diversified in their floral greatness. There are features in this flower not enumerated in many others, whether we consider it a garden plant that is in the bed or border, or even the parlor, during the blooming season, from its long duration in developing, and after the flower be fully expanded, that impresses the beholder with a sense of its magnitude. Yes! commissioned, as this flower is, to charm the amateur with fragrance, grace, beauty, and all the attributes appertaining to the choicest flower in cultivation, it matters not so much whether this country or that has the honor of its patronage, the florist must feel grateful, on reflection, that we really possess it. To propagate this beautiful perennial from seed, is by no means a pleasing task;

it is filled with disappointment; even when you procure the best seed from choice flowers, the probability is that you will get single flowers, or, if double, they may not prove better than a common pink, for we find that men who follow raising Carnations for sale as a living, that annually save and sow their own seed, completely fail. Take twelve of the most successful of these gardeners, and you will find on an average that they have not raised six good flowers during their lives. With this fact before a person's eyes, it is futile for amateurs to throw away so much time and labor, besides expense, on such uncertainty, when all the varieties so desirable can be purchased, taking a choice of the labors of hundreds of gardeners for about two hundred and fifty years. When you have good flowers, the best way is to increase your stock by layering, just as the flowers are on the wane in July, and so continue through the month of August, but the sooner the better. The operation is performed in the following way:—the night before, or twenty-four hours previous, water your plants copiously, by this means your plants will be more pliable and bend to the operation with greater facility, if not, your plants will be brittle, and snap off, frustrating your object. The soil, where your plants are to be layered, should be light and rich, on the surface in particular; then get some sticks with a crook at one end, and the other sharp, to pin the part firmly to the ground; when this is done, take a sharp penknife and make a slit in the lower part of the branch next to the soil, commencing in the centre of a joint, cutting up the middle near to the next joint, then take the peg and fasten it to the ground, leaving the slit open, bringing the top of the branch as near upright as you can conveniently

without breaking it off, then cover the plant about half an inch, continue in this way until you have layered as much of the plant as desired. In layering any plant it is best only to cover the joint, by this means the sun and air having their influence on them, will make them throw out root fibres more readily; this is caused by the sap running up the shoot, and when descending, not being able to return to the roots, will naturally cause the slit to form fresh root at the joint cut for that operation. In layering the Carnation it is best to leave one branch not layered, for sometimes heavy and continued rains will rot them off, and you would lose your plants. You will find it best to make provision against extremes in the weather. After your plants are all layered, give them a gentle watering to settle the earth around them. In this country it is necessary to give them a little watering morning and evening, provided the weather is dry and warm. In about four or five weeks examine your layers, and if well rooted, they may be taken off and planted in the open ground to gain strength, until the latter part of September, and then pot them off, one into a three inch pot or two plants into a four inch one; the latter will take up less room for the winter. It is frequently the case in layering the Carnation that some of the branches will snap off, notwithstanding all the precaution used, when it will be necessary to pipe them, which is done in the following way:—get a large pan or box twelve inches across, and fill it with a rich soil, mixed with one third sand, then take your pieces to be piped and cut them clean off at the third joint, and throw them into a basin of cold water for about ten minutes, then water the soil to settle it well, then take a bell glass and mark its size on the soil; this being done

take the pipings and stick them into the soil within the mark of the glass; the pipings will readily enter without danger of breaking, for being immersed in water gives them firmness; when all are in, give them a gentle watering to settle the soil around them; when the grass of the piping is dry, put on the bell glass to exclude the air, and place them in the shade. It will be necessary to take off the glass occasionally to water them; the glass should never be replaced while the plants are wet. When you perceive the plants begin to grow, you must begin to admit air; in about six weeks, the pipings, under favorable circumstances, will be ready to transplant, and may be treated the same as full grown plants. The Carnation is perfectly hardy in Europe, but requires protection in this country, as the rain and snow will destroy them, therefore they ought to be kept during the winter season in a dry place. The last of March, if the weather be fine, it will be necessary to take them out of their winter quarters, and pot them off singly, or plant them out in the open ground. If intended to flower in pots, the soil most congenial for their prosperity is a rich sandy loam with a good drainage. If the pots are sunk in the ground to the rim until the flowers begin to expand, it will save much trouble; then remove them into the house or a shady situation; it will preserve the flowers longer, and their colors continue more brilliant. When the plants are kept in the ground or in pots, as they spindle up to flower, they will require a stick, and be tied up as the stem advances. Most of the finest flowers have a tendency to burst out on one side; should this be the case, take a sharp pointed knife and ease the opposite side to make them open evenly,

or take a small piece of bass matting and tie it round the flower bud, this will preserve a good symmetry in their appearance; at the same time, water the plants freely in the pots while the buds are swelling, and during the time the flowers are expanded. The Carnation is divided into three classes:—the bizzair has a white ground with stripes or spots of two colors; flakes also have a white ground, with a stripe of one color running through the petal; the picotee, or pencilled, have a white or yellow ground; the edges of the petals are beautifully pencilled with purple, crimson, or red, and considered by many the most enchanting. The character of the Carnation may be summed up in a few words:—the stem should be from thirty to forty-five inches high, the foot-stalk of the flower elastic and strong, the flower not less than three inches in diameter, well formed, the petals not too crowded nor too thin, the calyx strong, one inch in length, keeping the base circular, rising half an inch above the calyx; the outer petals should be long and broad, rising perpendicular half an inch above the calyx, then reflex gracefully just enough to support or make sufficient room for the inner petals, giving the whole flower a convex, nearly forming a half globe. The outer petals, of course, should be the largest, and without notches or fringed. The picotee, in this respect, is an exception to this rule. The most proportionate colors in each petal, and free from spots, the better the flower. Pink, scarlet, and purple are the most prevailing colors in the Carnation; pink and scarlet are often blended in the same flower, but the scarlet and purple very seldom. When the plant is troubled with the *green fly*, it should be syringed with soap suds, or take a camel's

hair pencil and brush them off. This plant is frequently injured by the earwig and caterpillar destroying the flower buds; if you find your plants troubled with them, you will readily find them on the plant after night, and they must be destroyed, or your flowers will; therefore, watch them regularly, for it is a common occurrence to have the buds destroyed in one or two nights.

CHINA PINK.

(DIANTHUS CHINENSIS.)

"On me such beauty summer pours,
That I am covered o'er with flowers."

This herbaceous biennial is a native of China, and flowers all the summer; it is quite ornamental, and was imported into Europe one hundred years ago, and is easily propagated from seed. The stem branching, flowers solitary, scales linear, leafy, petals rather smooth and jugged, leaves linear lanceolate, thrives best in a rich soil. The beauty of this flower ought to make it a general favorite with amateurs. This pink is deficient in odor; are we to this simple circumstance to attribute such wilful neglect? if nature has withheld a fragrance, their beauty compensates for that deficiency, which is not the case in all flowers, nor is there a sameness in the flower, their colors differing materially. This plant exhibits a wonderful diversity, more so than any in cultivation, which is a great recom-

mendation to command general notice. In some respects this plant resembles the Sweet William, and at times I am inclined to think it a cross from that flower, though the flowering appears greatly different, as the one throws up a corymb of flowers similar in appearance to the head of a Cauliflower, when the Pink branches out with a single flower. The China Pink is susceptible of much improvement by hybridizing, and I recommend it to all lovers of showy flowers. The first season will enable you to judge the merit of the flower; this, like most double flowers, will also produce some single, and those generally remarkably pretty; that should be no consideration, throw them over the fence, save none but what are double. The second season, place some of your plants along side of the Sweet William, by which means the Pink will cross without further trouble; this is styled natural crossing, as the pollen will scatter without artificial means, and the seed of the China Pink will produce a *mule* or *hybrid;* the beauty of the two combined makes one of the most magnificent plants in cultivation; but the misfortune is they flower so luxuriantly, as to die at the close of the second season; still there is a consolation, the mule Pink is easily obtained, this alleviates a portion of that regret we should otherwise feel. It is surprising that gardeners have never taken this flower under their care, for we see them cultivate flowers of less merit, and some scarcely worth picking up in the street. Does this not show a want of taste? or can it arise from the easy manner in which it is propagated? The seed of the mule Pink I could never get to germinate; this is frequently the case with hybrids that are double. To propagate the China Pink, the seeds should be sown in

March, in a rich, light soil; when the plants are about one inch high, transplant them round the border, or in a bed; the border is preferable, for when the flower expands, if single, it can be pulled up and replaced with some others, which would not appear so well if in a bed. Save none but double, for, rest assured, if you allow any single to remain, the seed of your double will be good for nothing. The benefit will result the second season, which is the best time to save seed, for the most double will seed more freely than those of the first. Seeds of the second year will produce unquestionably better plants, and will average two-thirds double flowers, while those of the first will not produce one-third; and if the single be allowed to remain in the bed, the probability is that all will prove single; a want of this knowledge is why this delightful biennial has been neglected. The *mule* of the China Pink and Sweet William will generally produce their flowers so luxuriantly as to cover the foliage, imparting a most gorgeous sight rarely seen in other flowers. The China Pink is perfectly hardy, still, like many other flowers, protection will improve their beauty, and flower earlier.

CAROLINA PINK

(SPIGELIA MARILANDICA.)

"I love thee, yes, as flowers love light and air,
As night to stars, or earth the glorious sun,
As the cherished heart loves lone and earnest prayer,
So I love thee ——."

This is a perennial, rooted, herbaceous plant, a native of this country. There is something prepossessing in the appearance of this native flower, not only from the singularity of its appearance, but it may be considered ornamental withal, and is becoming a favorite. The root fibres branch and are thrown off some distance, and several stems arise from the roots about two feet high, with a spike of flowers of a beautiful carmine crimson, in the shape of a funnel. The flowers being situated all on one side of the stem, the weight of which bend it in a graceful form, consisting of ten to twenty in number. The leaves are opposite, without foot stalks, ovate, lanceolate, and smooth. The calyx of the flower is persistent, with five long subulate serrate leaves turning back, of a yellow color, giving a contrast novel and striking to the eye; the stamens short and inserted in a cup; anthers oblong heart shape, the germ ovate; style the length of the corolla, ending in a linear fringed stigma projecting beyond it; a double capsule consisting of cohering globular celled portions containing the seed. This plant has been used extensively for its medicinal properties as a cathartic, and in some cases has proved rather detri-

mental than beneficial; this, no doubt, was through the ignorance of pretenders in medicine; from the general use it is in, there can be no danger in the hands of a medical man of good standing. As a vermifuge, the properties of this plant are excellent, as was well known to most of the Indians upon the settlement of this country by the white people. Setting aside its medicinal properties, this plant is cultivated with no trouble in any garden soil, and is a very desirable flower, and is bound to be a favorite in the garden.

DOUBLE DAISY.

(BELLIS PERENNIS.)

"Thrice welcome, little English flower!
I'll rear thee with a trembling hand;
Oh! for the April sun and shower,
The sweet May-dews of that fair land
Where daisies, thick as starlight, stand
In every walk! that here might shoot
Thy scions, and thy buds expand,
A hundred from one root!"

This was once a very popular perennial herbaceous flowering plant, and still has many admirers. A person travelling in England would be delighted to see in what perfection the cottagers of that country manage them in a border of the pleasure garden; it is truly delightful, so unpretending the flower, yet how beautiful the appearance. There are no less than six varieties; the most common is

called the "Hen and Chickens," from the circumstance that round the outer whorls emanate a great many small flowers, giving the whole quite an ornamental appearance, at the same time a singularity not easily described. The Daisy throws up a scape about four inches high, naked and single flowered; the leaves being spatulate, obovate, crenate. This flower is but little cultivated in this country; this may arise as much from a want of knowledge of their culture as any thing else. The Daisy should be kept in the shade and be repotted spring and fall with what gardeners call maiden soil. This is easily attained by going into the meadows, and taking off the turf, then you come to the soil described; but do not dig below three inches, after the turf is taken off. With the use of this soil, and a shady situation, your plant will thrive. One thing is to be observed; you must consider this plant a parlor one, for it will not stand the severity of the winter in this country. It is increased by dividing the roots in the fall.

DAHLIA.

(GEORGINA.)

"Her matchless wealth of beauty beggars all
Our courtly dames can boast! her queenly form,
Her majesty of mein, would grace a throne."

The Dahlia is a perennial of much beauty, and has created more excitement than any other flower since the Tulip

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mania. It is tuberous rooted, throwing up a stem from two to eight feet high, depending on the kind, season, situation, and soil; it bears innumerable quantities of flowers, beautifully diversified in color, from pure snow-white to black, or nearly so, with all the shades intervening; not only selfs, that is of one color, but some most magnificently variegated, tipped, or striped. The stem branching and the leaves vary in shape nearly as much as the flowers. Although nature has given this plant great scope in variety of color, there has not been one produced of an azure blue, a color rarely found in any plant that produces a clear yellow. There are some exceptions to this rule; the amateur should not be discouraged as it may be obtained; if so, it would produce a fortune to the person that raised it, if sold in Europe. The price set on the flower in this country, that is, on seedling Dahlias, is not commensurate to the trouble the merit of the flower would deserve. It is a formidable rival to the queen of flowers, the "Rose;" in grace and brilliancy of bloom is its superior, and it only lacks perfume to prove its superiority to all others in the floral world.

This gorgeous flower is a native of Mexico. It was introduced into Europe about fifty years ago, and was, by some mismanagement, lost; the seed was re-introduced again by Lady Georgina Holland, and was named after her; but the name previously given was Dahlia, after a celebrated botanist of the name of Dahl, which appears to retain its prerogative up to the present time. Humboldt, in his travels in Mexico, says it is found growing in the meadows and plains of that country, of all colors, but the flowers are single. Cultivation has made them double, the same as the Helianthus of this country, by which means the whole

world has been bountifully supplied with the choicest kinds. Long catalogues are issued annually, containing many thousands; and no flower ever cultivated has been the cause of more imposition on the public than this, arising from tricks played on them by the exorbitancy of the florist, which has consequently injured its reputation. Persons in the habit of selling Dahlias in England for gardeners, have been compelled to sell with a warranty that the flower shall answer the description given in the catalogue; in most cases of late the money has been refunded and the gardeners have been the losers by their "tricks in trade." We do not, therefore, see so many advertised now as several years back. There are not more than forty that are true to their character as represented; the season has some effect on their perfection, and persons wishing to obtain a collection should see them *growing*, and examine their habits. To select from a stand exhibited in any place is impolitic, for a plant may have but one good flower in a season, which may captivate your admiration, or the plant may be a shy bloomer, not worth garden room, thus creating disappointment instead of pleasure.

This interesting flower is easily raised by seed, or divided at the root, or by cuttings. To raise from seed it is necessary to sow them in March, in a light, rich soil, and when four leaves are formed, prick them out and pot them separately until June; give them every encouragement in their growth, and then plant them out; treat them like other plants, and they will flower the first season. If you find the flowers single, throw them away. No plant is worth saving unless double and superior to any of the same color in cultivation. This renders the raising from seed rather dis-

couraging to a young beginner, and in fact it certainly is poor business, as plants already raised can be purchased cheap, enabling a person to procure a good selection at a moderate price.

The principal reason the Dahlia has not succeeded better in this country is, that persons having roots are anxious for early flowers, and generally take the greatest pains to defeat their object. Gardeners, to satisfy the public demand for early flowers, have been compelled, at the sacrifice of their judgment, to propagate for the sake of selling their plants. It should be observed that the Dahlia is an autumn not a spring flower, and should, therefore, never be planted in the open ground before June. If the rule here laid down be followed, there will not be that complaint which has heretofore existed. There is no general rule without some exception. It happens, sometimes, that *early* planting succeeds, but only in rainy seasons; for, if planted early, and we have a dry season, the plants will attain their growth in July or early in August, and consequently be attacked by the red spider. That insect lives and breeds on the under side of the leaves, which, for want of a proper circulation of sap, soon perish, thus defeating the desired object. In *late* planting, your plants will not attain their growth before the last of August, when the nights begin to get cool; they will then flower more profusely, amply compensating for all the trouble bestowed on them. The best application for destroying the red spider is whale oil soap, two pounds to fifteen gallons of water, syringed under the leaves as soon as they begin to turn yellow.

TO PART THE ROOTS.

This is the most advisable way to propagate for amateurs. In May, take the roots and plant them in the open ground, leaving the crown, or part where the eyes are situted, out; you will soon see them sprout, and, when sufficiently developed, take them up and divide the root with a knife, so as to leave one eye to every tuber. Then put them in pots until the time of planting, and water occasionally, just to keep them in a growing state. At the same time, be sure to keep the plants out of the reach of frost by covering them up, or you will lose them.

TO CULTIVATE BY SLIPS.

For this mode of cultivation it is necessary to prepare a hot bed, in April, of stable manure, in the usual way, as you would to raise early vegetables, and when the heat is about half spent, which will be in about ten days, put in the roots, leaving the crowns out of the soil. When your sprouts are three or four inches long, slip them off with the thumb, or a knife; then place your slips in a thumb (two inch) pot filled with a light soil (only one in each pot), and return it to the hot bed, giving plenty of water, and only sufficient air to keep them from damping off. In three weeks you will find them sufficiently rooted to be repotted into a larger one. They should then be placed in a frame and hardened gradually. In this way you may continue as long as your plants will sprout. Those sprouted first will make the best plants; for the more the plants

are taken off, the weaker they will be. Plants struck with bottom heat will never produce such good flowers, or such healthy plants, as those struck in the open ground, and divided.

THE SOIL.

Much has been said and written on this subject. I have found a sandy loam to be the best for general culture. The Dahlia, like the Rose, will accommodate itself to almost any soil, still it must be admitted that *art* will make some difference in its culture, for if your Dahlias are selfs, that is, flowers of one color, such as Matchless (Weller's) Calliope, Admiral Stopford, Countess of Liverpool, and the like, to enrich the soil a little will make their colors more brilliant. For Dahlias of two colors, such as Alba purpurea, Striata formosissima, Bride's Maid, Lady St. Mauer, or any other variegated flower, if planted in rich soil, their colors will run, that is, the variegation will not be so distinct as in a poorer soil. A sandy loam for general culture is best, and will retain moisture the longest, which in dry weather is desirable.

After the Dahlias are planted, you will find it of great advantage to place old manure on the top for a foot around the plant, to keep the roots moist in dry weather. It would be a great advantage to drive your stakes prior to putting your plants in; by this means you would not destroy the roots. Never allow but one stem to grow from one tuber.

TAKING UP ROOTS.

In taking up your roots in the fall, it is frequently done too hastily; you will find it of advantage, just before you expect a frost, to take a spade and cut the ends of the tubers. This will not affect the flowers or the plant, but will have a tendency to ripen the tubers sooner. When the foliage is black with the frost, cut them down to within three inches of the ground, and lay the haulm over the roots as a protection from the frost. In eight or ten days your plants may be taken up; but be careful and label as you take them up, to enable you to know one plant from another at any time. Place the roots in a room for about two weeks, to dry; then pack them in a barrel with some hay, and then in a cellar or room out of the reach of frost.

In the month of January, if the weather is mild, it will be necessary to examine the roots, and, if mouldy and likely to rot, they should be dried in the sun, and then re-packed. In the coldest parts of Europe it is a common practice to bury them in the ground like potatoes, a plan I would recommend to persons living in the country, who have no cellars.

DANDELION.

(LEONTODON TARAXACUM.)

" Thine, full many a pleasing bloom
Of blossoms lost to all perfume;
Thine, the dandelion flowers,
Gilt with dew, like sun with showers "

The Dandelion is a common weed on the commons and meadows. The outer scales of the involucre are bent back, the leaves runcinate, glabrous, toothed, throwing up a stem six inches high, with a yellow flower at the extreme. When the seed is ripe, it forms a ball, and each seed is furnished with a soft down, and is easily carried a great distance in the air by the wind. This will account for the plant being so abundant in all directions. How frequently are the productions of nature used for the benefit of the living; even to the assistance of the lover, for in their time of uncertainty do we see the fair sex, when anxious to know if the object their " soul holds most dear," retains one kind remembrance of them, will take the scape with the matured seed, blow it gently, and if there remains one or more tufts of seed, their soft and tender feelings, prompted by curiosity, seem satisfied that their anticipations are reciprocated, thus giving a decisive satisfaction, once mantled with fear, making their love flow more smoothly through a complication of uncertainty.

Linnæus considers this plant more regular in expanding its flowers than any yet known. On careful examination,

it will be found to possess more perfection than is generally accorded to it, because the familiar intercourse we have daily with this flower, deprives it of the attraction that scarcity alone could discover, and then it would be indispensable to the parterre. If the Anemone were placed alongside of this flower, setting the color aside, the Anemone would be considered the less attractive of the two. What operates against this plant is, its being devoid of agreeable ordor, and the color simple. Why should not cultivation improve this as well as other plants? Attention to this particular has done much in many instances; but the florist that would attempt to improve this flower, by taking it from its rural state, would meet with derision. Popular prejudice would be against him. While one might consider it ornamental, another might hold the reverse opinion. I cannot say my ambition would ever induce me to attempt to establish it in my garden, whatever its merits; still that does not deprive the flower of any merit appertaining to so common a plant. Education has established a contempt that all the florists in the country cannot eradicate. I remember, that when in the country on a visit, at dinner there was a new variety of vegetables (so called) on the table, and my opinion was solicited in regard to their merit. I thought them quite agreeable, for early vegetables in the spring, and was greatly surprised when informed that they were the Dandelion. I found them much better than some purchased in market at a costly price; yet, notwithstanding the agreeable flavor, my mind was so prejudiced, I could never be brought to eat them in the city, so strong is the effects of education. In this country, and in many other parts, this plant is popular for its medicinal qualities, being

considered tonic, diuretic, and aperient; it has a specific action on the liver, resolving its chronic engorgements when languid, and is used more especially when the derangement of the hepatic system and digestive organs are impaired. In chronic inflammation of the liver, or deficiency of bile, and dropsical affections, it is used with decided success. The Dandelion is generally used in the form of extract or decoction, by boiling the root (after slicing it) down to one half.

FAIR-EYE.

(CALLIOPSIS.)

Of this family of annual flowering plants, there is a great variety, flowering from June until cut down by the frost. They are natives of this country. Their general appearance is pleasing and showy, being hardy, erect, and branching, rather slender in growth, from one to two feet high; the flowers yellow, with brown centre. The best of this variety is C. drummondii; it is of dwarf habit and large flowers, not exhibiting that naked and loose appearance so apparent in the stem of other varieties. The whole of the Calliopsis will grow in any garden soil, and in better perfection if the seed be sown in September, as the young plants will survive the winter, and in the early spring can be removed to where they are wanted to flower. In

addition to the annuals, there are several varieties that are perennial, equally ornamental, which require much the same treatment as the generality of perennials.

FOXGLOVE.

(DIGITALIS.)

"The Foxglove and the fern,
How gracefully they grow,
With grand old oaks above them,
And wavy grass below."

The Foxglove is a beautiful perennial rooted, flowering plant, with rough leaves, throwing up an erect stem about three feet high. The flowers are spiked and numerous, at the same time very showy, bearing a beautiful purple flower, in their native state, while some in cultivation have receded from that deep richness to a bluish color. There is also a yellow, rather small and dingy, not worth the trouble of cultivating. The leaves of the Foxglove are ovate pointed, from four to eight inches long, and about half of that in width; the foot stalk is short and winged, —the upper are alternate and lanceolate, and obtusely serrated at the edges, with a rough surface of a deep green color, the under part more downy than the upper. The flowers are numerous and connected with the stem by short peduncles hanging down; each flower is of a bell form, or rather like the finger of a glove; the inner side of

the flower is beautifully spotted with black, on a whitish ground; the whole filament is surrounded by yellow anthers; the style is simple and supports a bifid stigma; the seeds are contained in two celled capsules.

The Foxglove is a native of the South of England, and delights in a shady situation, particularly under trees, but will grow very well in the open ground in any common garden soil. Under these circumstances it must be considered a very desirable plant in the garden, and is so hardy as seldom to be injured by frost.

To propagate it, the seeds should be sown in the open ground in April, and be transplanted to where it is intended to flower. When the plants acquire a few leaves, they will stand the winter, if sown in the fall; but there is no advantage gained by sowing in the fall, as they will not flower any earlier. From the facility with which this plant is raised from seed, it is hardly worth while to divide the roots, as is often done with old plants in the fall. Seedlings will produce the best flowers, and my experience leads me to consider it more as a biennial than a perennial.

The Foxglove possesses medicinal properties, which should be known to those who cultivate it for ornament, as it may prevent bad results, as children at times will pick flowers and leaves and eat them, without the parent being aware of the danger. The flowers are without fragrance; the leaves, when dried, acquire a narcotic odor, and are a pale green, with a bitter and nauseous taste. When used as a medicine, they may be valuable in a skillful hand, but with empirics may prove a deadly poison. It often happens that this plant, when used as a medicine, will not act

on the system as required; therefore, several doses are often administered before any action takes place in the patient; this being the case, unless the physician be a scientific man, it may cause stupor or delirium, prostration of strength, and other symptoms, indicating the presence of a deadly poison.

FORGET-ME-NOT.

(MYOSOTIS PALUSTRIS.)

"Lay to thy heart this token-flower,
With love's own tears its leaves are wet,
T will whisper, in its dying hour,
Do not forget."

This beautiful little deciduous herbaceous plant is indigenous in marshy grounds in England, and like other weeds, considered of little merit, until the florist points out its intrinsic beauty. The root is perennial, the calyx fine toothed, rather smooth, teeth equal, obtuse, as long as the tube of the corolla; leaves lanceolate, smooth, the calyx half the size of the limb of the corolla. It flowers from April to August, of a beautiful azure blue. *Veronica chamædrys* is often imposed on people not acquainted with the plant, for the former; this is also a native of England; the treatment of this is widely different. It is found growing on dry banks, and flowers from May to July, throwing up a spike with ten to twenty bright blue flowers, nearly a foot high, possessing considerable merit for their beauty

The genuine Forget-Me-Not is extensively cultivated in France, for the Paris market, and succeeds well, if kept in pots in a pan of water, making a pretty appearance in the window.

It is easily propagated by dividing the roots in the spring or fall, and planting in a rich soil, requiring little or no attention further than pinching off the ends of the shoots to prevent its running over the sides of the pot; for compactness sometimes makes a plant as beautiful as the flowers. We know that allowing plants to run too much, prevents them from flowering luxuriantly, which is the case with this plant. Care must be taken to destroy the insects which are frequently found on them; this is easily done, if attended to on their first appearance. The flower will sometimes sport to pink, or a dingy yellow; this arises from some local cause. It may then be hybridized with some of the Alpine species, and new varieties may be obtained. In its native state, it is not known to sport. It has attracted more attention in France than its native country, and is now almost identified with it, being found growing profusely on the banks of the Luxembourg, the peasants calling that stream the "FAIRY BATHS."

There is a legend related of the origin of the name *Forget-Me-Not*, which has immortalized this flower for ever. It appears that two lovers (as a matter of course when lovers are in the tale it is enough to immortalize any affair, however trivial) were walking on the banks of the Danube; the lady discovered the flower *M. palustris*, floating on its pearly stream, and was struck with its beauty, and expressed a wish to possess it. The lover (unlike one of the present day), to prove his readiness to gratify his "lady

love," plunged into the stream; his anxiety to serve was greater than his strength, and he found himself unable to reach the shore. He threw the flower to her, exclaiming, as he sunk, "*Virgils Mich Nicht.*" The flower being so dearly bought, made her treasure it, as long as life retained its perogative in her bosom; hence the cognomen "*Forget-Me-Not.*"

FUCHSIA.

"The flowers that grace their native beds,
Awhile put forth their blushing heads;
But on the close of parting day
They wither, shrink, and die away;
But those which mimic skill has made,
Nor scorched by sun, nor killed by shade,
Shall blush with less inconstant hue,
Which art at pleasure can renew."

This beautiful gem has not long been introduced into Flora's catalogue; and, if I am not mistaken, was first discovered in South America, where the exterior beauty of the flower attracted the eye of the botanist. I should judge, from its majestic appearance, it has not suffered by cultivation. Those best known are F. mycrophilla, colvillii, coccinea, globosa, and longiflora superba. With gardeners, these varieties were considered quite an acquisition to the flower department, but were eclipsed by the introduction of F. fulgens, by Mr. Lee, of Hammersmith, in

England, from Mexico, thence to this country. This plant, in appearance, is distinct from the above named ones. The leaf is about five inches long, and about three broad, of a bright green, and the underside a little tinged with purple. The flowers are produced at the ends of the shoots in clusters, are over three inches in length, of a light scarlet red, having the segment green, the inner portion of the flower a deep scarlet, and prepossessing. It is vigorous in growth, with tuberous roots, something like the Dahlia. The seed pod is nearly the size of a cherry, rather more oblong, and very delicious in taste, not unlike the fruit of the Cactus. The Fuchsia, being deciduous, will shed the leaf in winter, consequently may be easily kept in a cellar, or any place out of the reach of frost. Dr. Lindley suggested the propriety of crossing F. fulgens with F. globosa. Many nurserymen took the hint. The result has been wonderful. The list has now swollen to about one hundred and fifty; but in many cases the similitude is so great, that it would lead an experienced gardener into a labyrinth of perplexity to point out the difference; yet all find names and advocates.

So esteemed is this beautiful plant in England, that every new variety commands an enormous price as soon as it appears, which in a few years is reduced to a small sum by being supplanted by *another new variety*. It is certainly surprising that this magnificent variety of plants is not more esteemed in this country, being easily cultivated by seed or slips, in any common garden soil. The seeds should be sown in the spring, and, when about one inch high, should be potted off. Slips should be taken off

in the spring, which will root readily. Sometimes we see F. coccinea, commonly called "Lady's Ear Drop," in a parlor, with its graceful flowers suspended on the branches,

"Beautifully fair,
As graceful in its loveliness as a maiden's flowing hair."

The Fuchsia requires a shaded situation, being rather impatient of drought, but in the humid atmosphere of England, it will live in the open ground; and some gardeners are so wedded to this superb genus of plants as to form beds of the different varieties, with the tallest in the centre, placing an awning over them in the summer, to protect them against the sun's rays, and prevent the heavy rains from destroying them. By this means their flowering season is protracted for a longer time, and it inspires the spectator with delightful impressions. How ingenious the contrivance; the labor of the constructor is sufficiently repaid by the gorgeous appearance of the flowers. Is it not delightful to reflect on the association of ideas advanced and practised to beguile our senses by such tasteful exhibitions. Floral devices will predominate with persons attached to flowers; the very semblance brings to mind the following lines by Cowper:—

"How sweet to muse upon the skill displayed
(Infinite skill) in all that He has made;
To trace in Nature's most minute design,
The signature and stamp of Power Divine."

GRAFTING WAX.

The component parts of this useful and indispensable article in grafting, &c., is an equal part of bees-wax, rosin, and tallow, with sufficient tar to make it soft and pliable when heated over a fire. It may be laid on with a brush quite thick (blood warm); and before baking dry, should be sprinkled over with sand to render it impenetrable to the weather, otherwise it would be of little use. If intended to be worked with the hand, it should be made to the consistence of putty, by adding more wax; this also should be used before cold.

GARDEN PINK.

(DIANTHUS HORTENSIS.)

"—— the wild Pink crowns the garden wall,
And with the flowers are intermingled stones,
Sparry and bright, rough scattering of the hills."

This indispensable variety of flowering plants of late has been taken under the care of the florist, and has been much improved by art. It is an herbaceous perennial, flowering in June; the stem branching, flowers solitary and terminal; the scales of the calyx ovate and short, the leaves channelled and glaucous. There are many doubts whether this

flower is a mere variety of the Carnation, or a distinct species of itself. I do not pretend to be a botanist, therefore cannot tell if there really be a distinction between the two. I have saved the seeds of the Carnation and sown them, the result being nothing more to my comprehension, than *Pinks*, not one seedling having the least affinity to the parent plant. From this I should judge the Carnation to be a mere variety. Then, again, when we consider the risk of the Carnation growers themselves, that are in the habit of saving and sowing their own seeds, it being mere chance when a Carnation is produced. It is considered that if a grower raises one new variety in his life time, he may be a fortunate man.

The difference most perceptible in the Carnation is, that it is more robust than the Pink; whether there exist in reality a difference is as yet unsettled with the florist; but so far as public opinion is concerned there is a difference. They should, therefore, be treated as separate plants. Of the Pink there are many varieties; all are not florists' flowers. Of the common kinds, the "Pheasant's Eye" is the best, and the treatment of one is applicable to all but the *fine kinds*, which are managed like the Carnation. The Pink is more hardy than the Carnation, and will strike more readily from cuttings. This has been the principal way of propagating them, until recently, when it was discovered they would grow readily from slips, and make stronger plants in less time than by pipings.

To propagate from seed, the best plan will be to sow them in March, in pans or boxes, and when six leaves are formed, transplant them into a bed about four inches apart, and in September transplant them to where they are intend

ed to flower. The Pink will never flower to that perfection it would do, if removed after that month. The best time to slip Pinks is early in the spring or the last of August. They must be shaded until the plants begin to grow. If you increase by pipings it should be done in June, or the beginning of July, in the following manner:—Take a large pot or box, fill it with a light rich soil, one third part sand and well incorporated; let the receiver be full to the top, and water it well with a watering-pot. This done, take the pieces intended for piping, and cut them through the third joint from the end with a sharp knife, and trim the tops if you wish to plant them thick; they should never be closer than one inch each way. As you cut the pipings, throw them into a bowl of water to give them firmness; then take a bell glass and mark its size, the same as recommended for cuttings; then insert the pipings about half their length, and gently water them to settle the soil. When the grass is dry, put on the glass to exclude the air, and remove them to the shade.

The glass should never be placed on until the grass is dry; this precaution must be observed whenever you water them. If close covered they may not require any for the first ten days. The soil must always be kept damp, and when you perceive the pipings begin to grow, admit air by degrees. Should the weather be favorable, and proper attention be paid to them, in about six weeks the plant will be sufficiently rooted to transplant. They should then be treated the same as full grown plants. The soil for Pinks should be a rich sandy loam. In the latter part of March loosen the soil around the plants without disturbing their roots, and place some sifted manure around them, which

will much improve their flowers. When the plants begin to spindle up to flower, the safest way will be to put sticks to them and tie them up, as their stems will be brittle; this will prevent accident. The character of the Pink is similar to the Carnation (with the exception that its dimensions are much smaller); it flowers nearly at the same time, from June to July, depending entirely on the season.

The Pink is easily crossed, as it seeds freely, with the exception of the larger and very double kinds. The process of crossing should be performed very early in the morning; and the pollen should be transferred to the flower two or three times in the day. If the flower begins to fade within twenty-four hours after the operation, you may conclude your object has been effected. A mild day is the best for the operation. A large bed of Pinks make one of the best shows known in the floral line. Their fragrance is delightful, surpassing all conception. The Pink is mostly cultivated for the beauty of its flowers; but the Clove Pink is the one selected for medical purposes, possessing a strong aromatic odor, which resembles the clove; the taste is a sweetish bitter, and astringent. The properties of the Clove Pink are easily extracted with alcohol or water, and by distillation a fragrant oil is obtained, which is used with other medicine. In Europe there is a great trade made in this line of business by the cottagers, in whose gardens this evergreen perennial can be seen during m.d-winter, when every other plant is suffering by the inclemency of the winter.

GERANIUM.

(PELARGONIUM.)

"Thine excellence is of a rare degree,
Though praised by others, 'tis unknown to thee;
In humble deeds of love, and kindly care,
To these earth's riches own no share;
By acts of mercy, all unseen of men,
By silent victory over pride and sin,
By faith, and hope, and charity on earth,
Thou provest to others thy transcendent worth."

On this beautiful variety of evergreen perennials much eloquence has been lavished by many writers, and justly so, for no green-house plant will better justify the grower in having a house devoted to them in particular. This will enable the florist to bring them to that perfection that could not be attained in a house of mixed plants. No flower sells better in the market than the Geranium. This is sufficient proof that it is a general favorite. There are extensive catalogues containing many hundred with names. There is a great sameness of colors in many, yet all are cultivated as choice florist's flowers. In making a selection, a person should go into some extensive establishment, and select about twenty that may be distinct; beyond that number the amateur should not go for distinct ones.

The Geranium was originally imported from the Cape of Good Hope into different parts of Europe, where the industry of the florist made it manifest their skill had been put in requisition, from the vast number of hybrids pro-

duced. Some of the old varieties possess an agreeable odor, but are inferior in flowers, and unworthy of being placed in a good collection. It is observable that when nature has been chary in awarding a sweet and delicate perfume, she has been more lavish in their beauty, which has been the case with this. It has not only beautiful flowers, but they often appear in large trusses, making some of the plants appear a perfect sheet of beauty. Hybridizing was not so well understood until the father of that system (Mr. Sweet, an English florist) commenced. Colvill, Dennis, and Garth afterwards appeared, and still propagate. By their industry we get new varieties annually; and it is to be hoped they may meet with a corresponding remuneration.

The Geranium is of easy culture, generally speaking, though some hybrids are more difficult than others, without a propagating house. When this is the case the amateur should abandon them for other varieties. The seeds should be sown in the spring, in a pan or box of light rich soil, and when the plants have formed six leaves, pot them singly into two inch pots, and regularly water them. When the pots are filled with roots, shift them into one a size larger, and in the fall into one of four inch, giving them a good drainage, and treat them the same as full grown plants. In February the plants should be shifted again into one a size larger, and the top soil removed without disturbing the roots, and fresh soil put in and watered to promote their growth. In July, after your plants are done flowering, cut them down, and repot the old roots into a three inch pot; the plant will flower tolerably well the next season. The tops should be converted into cuttings by cutting them through the fourth joint from the top with a sharp

knife, and trimming the leaves; then stick them round the pan as previously directed for cuttings; place them in the shade and keep them moist, and in six weeks they will be well rooted and ready to pot off, and be placed into their winter quarters. The cuttings will flower to perfection in the spring, which makes it necessary to propagate every season.

The Geranium is tender, and will not stand frost, and should therefore be kept in a place where the cold will never be below the freezing point. Should the thermometer fall to 26° Fahrenheit, where your plants are, remove them into a dark place, when the frost will come out gradually. No ill effects will then result; but if you take them into a room where light is, and the room warmer than where frosted, you will lose your plants; neither does this plant like a damp place for the winter, which is injurious. The Geranium should never be placed out of doors before the last of May, when all danger of frost is over. All these little items should be borne in mind by the amateur, as one night may derange all your hopes.

The soil best suited for this plant is one third rotten manure, from an old cucumber bed, and two thirds sandy loam, well incorporated and exposed to the weather for three months before used. The season of potting will depend more on your plants than any set time, as you must be guided by circumstances. July is the best time to cut them down, or they may be delayed until August if you have taken cuttings. When your plants are attacked with the green fly, you must either smoke them, or make soap suds with whale-oil soap; the latter is the safest plan, and done with the least trouble.

GLADIOLUS.

(GLADIOLE.)

This charming genera of bulbs is a native of the Cape of Good Hope, and is deservedly one of the most interesting we have in cultivation from Africa. It is now attracting much notice among florists, and many new hybrids have been added to the list, that are beautiful. The common Gladiolus has been in cultivation for some time, and is known as the "Sword Lily," on account of the formation of the leaf. *G. communis* and *G. byzanthus* are the oldest varieties, and are hardy. *G. cardinalis* and *G. floribundis* are more tender, and decidedly more splendid, as the development of their flowers will manifest.

The Gladiolus is easily propagated by seeds or offsets. It is useless to raise from seed with the expectation of new varieties, unless the flowers are impregnated, for the seed will produce none but its own kind; artificial fecundation must therefore be attended to, if you wish new varieties.

The seed should be sown in pans in August or September, and should have the morning sun only, and care must be taken that the rain does not rot them. In October the pans should be removed into a pit or green-house until April, and then exposed to the open air, but must not be allowed to freeze, when the seeds begin to grow. In the fall, when the leaf dies down, take them up and pack them in sand until the following April, then plant them in a bed by themselves in a sandy loam soil. These seedlings will

not flower until the third or fourth year, when the labor you have bestowed will be fully compensated with something new, and in all probability, interesting. These bulbs, with the exception of the two first named, should not be planted until the danger of frost is over, for without due caution, you may lose your bulbs. If early flowers be the object, plant them in pots to forward them, and keep them in the house or pit, from thence to the garden in May. These bulbs increase readily by offsets, some varieties more than others. *G. communis* and G. *byzanthus* should be planted in October, and will stand the winter and flower early.

GLOXINIA.

"Who can paint
Like Nature? Can imagination boast,
Amidst this gay creation, hues like hers?
And can he mix them with that matchless skill,
And lay them on so delicately fine,
And lose them in each other, as appears
In every bud that blows? If fancy then,
Unequal, fails beneath the pleasing task,
Oh! what can language do."

This beautiful plant is a native of South America, and has hitherto been treated as a tender stove plant; but on a better acquaintance with its habits in cultivation, this has been clearly proved not to be the case. It is easily cultivated by any amateur; and indeed such proofs have been

adduced as have thoroughly convinced those of the "old school" that by a different treatment, better and more gorgeous flowers are now produced than when treated as a stove plant.

The Gloxinia was named after a botanical writer by the name of Gloxia, and was deservedly bestowed in honor of his deep researches into the nature of plants, so much so that he was considered the most enlightened person on that subject. The great secret (if such it may be called) in its culture, is placing it in a state of rest, which we find applicable to all tropical plants. The shape of the flower is somewhat between the Bignonia and the Canterbury Bell, but it hangs down like the Foxglove, and the ribs or stripes impart a richness not easily described. I think that by impregnation the field of improvement in raising new varieties must be great, more particularly as this genus of flowering plants continue to produce magnificent and unsurpassed flowers during the whole summer, making it one of the most desirable bulbs in cultivation, and to those acquainted with their culture, one of the easiest.

In order to obtain this plant on the cheapest scale, it will be necessary to sow the seeds in March, in a light, rich soil, and if forwarded in a hot bed, they will frequently flower the first summer. When your plants are of sufficient size, that is, when your plants have formed about the fourth leaf, transplant them into four inch pots, and keep them in a moderately shaded situation, and sufficiently watered to keep them in a growing state. In September begin to give less water; in November cease altogether, and place them in a pit or dry cellar, free from frost, and

let them remain dormant until spring. In the month of March, it will be necessary to shake the dirt from them, and repot into one of five inches, with a good drainage; let the soil be such as you can procure from some ravine in the woods, composed of rotten wood and leaves, intermixed with the sediments washed from stones, which form like sand; the bulbs should be planted nearly on a level with the soil.

These plants are found on the margin of woods, in their native country, and we should imitate their nature in soil and habit as near as possible, to induce them to flower profusely. After being potted, it will be found necessary to be careful in giving them water, until several leaves are formed; then you may occasionally water over the foliage until the flowers begin to show, which will be about the last of May. If a small portion of guano were mixed with the water, I have no doubt benefit would result in making the plants more vigorous, and the flowers more strikingly beautiful.

The cultivation of flowers prompts us to endeavor to find the easiest mode of propagation. The following will be advantageous to beginners:—By sowing seeds, if the flowers are impregnated, we raise new varieties; when these varieties are fine, either in color, shape, or size, then we commence propagating them; and what is singular in the Gloxinia is, that if you plant any part of the leaf, provided the rib in the middle be attached, it will soon form itself into a bulb, and make a good flowering plant the next season. It also seeds freely, and ere long we shall be furnished with catalogues as lengthy as those of the Fuchsia. This plant does not in reality require so much atten-

tion as many others of higher reputation, but of less intrinsic merit, for when they flower, nothing more is required than watering when necessary, and the beauty of the flowers possesses all the requisites desirable to enchant our admiration. It would be a great improvement to place moss on the top of the pot which would give the flowers a better contrast, and take off the rough appearance of the soil.

HOLLYHOCK.

(ALTHÆA ROSEA.)

"Thy long lost praise thou shalt regain:
Dear shalt thou be to future men,
As in old times;—thou, not in vain,
Art Nature's favorite."

This is an old but one of the most beautiful deciduous biennials of our flower garden, flowering from July to September. It is a native of China, and is of the Marsh Mallow tribe. Before the Dahlia mania became so great, it was the most attractive border flower in England; still, however beautiful the Dahlia may be considered, the Hollyhock has not lost any of its ornamental beauty, for let the season be rainy or dry, this flower still retains its beauty and vigor. Not so with the Dahlia. Fashion may have reduced the demand for this plant, but its beauty is still pre-eminent, and will retain its place in the heart of

those fond of good flowers. This plant will grow sometimes eight feet high; the stem is upright and hairy, the leaves cordate, fine, seven angled, crenate, rugose. The flowers axillary, sessile. The natural color is red, but there are now over twenty colors enumerated in this variety, and this change has been effected by the industrious *bee*, going from flower to flower, elucidating the following lines:—

> "From the nectaries of hollyhock,
> The humble bee, e'en till he faints, will sip;"

Then crossing and recrossing until this flower may be considered at the *ne plus ultra* of perfection. These flowers, when placed in a stand, like Dahlias exhibited for show, have a beautiful appearance, equal to any flower cultivated.

The seed should be gathered on a fine day and preserved until spring, and then planted in any garden soil. In no case should a single flowering plant be allowed to grow in a collection if you pride yourself upon a good one. When the young plants are of sufficient size, transplant them into the borders, around the garden, in cloudy weather. From the nature of their growing tall, their appearance will be the most conspicuous, and not interfere with plants of more humble growth; the soil should not be rich, or your plants will spindle up too much. The second season you will be enabled to judge the merit of the flower, and if not well formed and double, pull the plant up and try again another season; by this mode you may get a choice collection, and when your object is attained, and you wish to keep them, you must divide and re-

move the plants every fall, or they will run out. There are many plants that delight in being removed; the Hollyhock is one of that class.

HIBISCUS.

Of this family there is a great variety, both annual and perennial. Of the annuals, the African and Manihot are best known in the flower garden, being considered very showy plants, and quite distinct in appearance, which is not the case with the whole variety. The Chinese variety does not do well except in the Southern States. This is to be regretted, as their beautiful scarlet flowers make them a desirable plant for the green-house. Of the perennials most cultivated, are the White and Pink, both magnificent plants, exhibiting large flowers, about five inches in diameter, beautiful and bold. The misfortune is, they last but a day; but as they continue to open others, some amends are made for the shortness of their duration. They are propagated by seeds, or by dividing the roots, and should be planted in the border. If the seeds are sown early in the spring, they will frequently flower the first season, and improve in size and beauty, as the plant advances, for the first five years, while it still retains its noble appearance undiminished. It is devoid of fragrance. It grows tall; is best planted around the border, like the Hollyhock, and needs no further care after being transplanted, than cutting off the flower stems when done flowering.

HELIOTROPE.

(HELIOTROPIUM PERUVIUM.)

"There is a flower whose modest eye,
Is turned with looks of light and love,
Who breathes her softest, sweetest sigh,
Whene'er the sun is bright above."

This is one of our general favorites, and is much cultivated in the green-house, and the parlor. It was discovered by Jussieu, a celebrated French botanist, in Peru. Along the Cordilleras it is found very plentiful, diffusing its delightful fragrance, from whence the seeds were collected and sent to France. By this means, it found its way into the parterres of the fashionables of Europe. This plant is ornamental, sweet scented, and flowers nearly the whole year, making it one of the most indispensable in cultivation. The leaves are oblong, lanceolate, in appearance much like the common sage of the garden; it is shrubby in its natural state, with spikes of flowers, numerous, aggregate, corymbose, and of a bluish lilac color. It generally attains the height of two feet; will grow readily from cuttings taken off early in the spring, until fall. It is in nature tender, and must never be left out of doors in frosty weather, or it will be destroyed. In the spring, when all danger of frost is over, it may be turned out of the pot into the open ground, and will grow luxuriantly, and make quite an imposing appearance with its large corymb of beautiful flowers. The last of September this

plant should be taken up and potted (the soil a rich, sandy loam), watered, and brought into the house. This flower, when planted in the open ground, like the Sunflower, will turn with the sun; but in cloudy weather it will droop. The situation most desirable in the open ground is, where the sun can have all its influence on the plant. As a pot plant it is desirable in any room.

HYDRANGEA.

(HYDRANGEA HORTENSIA.)

This is another of our universal favorite flowers which is to be found in the humble dwellings of the poor, as well as the mansions of the wealthy. It was first introduced into the King of England's garden at Kew, about sixty years ago, and was imported from China by Sir Joseph Banks. The flowers of this perennial rooted plant, in its primitive state, are of azure blue, but cultivation has wrought a change in their color. It flowers all the summer, the cymes are radient, leaves elleptical, narrower at each end, toothed, and smooth. It does not fall to our lot to see them in their natural color, which necessarily incapacitates us from judging correctly if culture be in reality an improvement or not. The circumstance of its turning blue so seldom makes one of that caste truly desirable. I have tried several compositions to change the color of the flowers, but without effect.

The Hydrangea is one of the few plants that appear to thrive even when no care is taken of them. Still I would not advise or advocate such looseness in any person that has the least pretension to the culture of flowers. I recollect an anecdote of a nurseryman in London, who was celebrated for selling blue Hydrangeas, which commanded a great price, for several years; but all at once his stock run out; he had none but pink. It appeared, in the sequel, that he had purchased several loads of peat soil, with which he potted his plants, little suspecting the effect its quality would produce on his flowers. When the blooming season arrived, he was agreeably surprised at the effect. This induced him to keep the balance expressly for that purpose; and, as long as any of the soil lasted, he could meet all demands. To his mortification, he could not find the man of whom he purchased, neither could he procure any soil to produce the same effect, consequently he was in the predicament of Othello, "his occupation gone." I have no doubt from the greediness of the plant, that soil procured from marshy grounds, dried and sifted, would be good. It is said that iron filings will turn the color of the flower. If such be the case, why not a yellow sandy loam of a reddish cast, be good, which contains a certain portion of iron? This is easily to be obtained from the brick yards. Turf laid by for a year to rot, is a good composition, mixed with rotten leaves. In short the plant will grow in almost any soil, but the color is difficult to change.

The Hydrangea is of easy culture, and will strike root at any time, when not in a state of rest; this is from the time the leaf begins to drop until the buds swell in the spring. The best time to pot the plants is in March, and instead of

shaking the soil from the roots, as with some plants, take a large knife and cut the roots off, leaving a ball in the centre, containing the main body, of the size of a large apple. Then take your compost and fill the pot, placing the ball with the plant in the centre. I would not advise a large pot, as it would be better, in the month of June, to shift the plant, without disturbing the roots, into a pot larger. By adopting this plan, your plant will become more thrifty, and bloom more beautifully with a larger head of flowers.

This plant, possessing such a desire for water in the summer, should be kept in pans made on purpose, and be filled every day or two, and be kept in the shade, for the sun or want of water will make them flag. In the beginning of October, take them out of the pans and water them sparingly until the middle of November, then place them in a cellar, and water once in two or three weeks, until March, when you must bring them forward, re-pot, &c., but guard them from the spring frost.

The Hydrangea is hardy, and will stand out with protection, but will flower better if kept in the house. It is injured more by the sun than frost; avoid both.

HONEYSUCKLE.

(CAPRIFOLIUM PERICLYMENUM.)

"That sweet Honeysuckle which
Is fair as fragrant ——————."
"—————— The Woodbine wild,
That loves to hang, on barren boughs remote,
Her wreaths of flowery perfume."

This delightful, fragrant shrub, is a native of Great Britain, and is found growing wild in the hedges and lanes of that country; flowering from May to July, and filling the air with the most delightful and pleasing fragrance known (particularly after a shower), far surpassing the Sweet Brier. The flowers are capitate, terminal; the leaves deciduous, distinct.

This plant, although common in England, is cultivated much as a shade, giving rusticity to the poor man's cottage, imparting life and simplicity, as well as ornament. Of the Woodbine Honeysuckle, there is a large family found in almost all countries, and the major part are well calculated for the trellis, affording a good shade, or they can be nailed to the side of a house. This family of plants is well calculated for the open flower garden.

The Woodbine family should be trimmed every season to make them flower better, and not allowed to straggle. They should be fastened well in case of rain, or their weight will break them down. This family of deciduous shrubs is easily propagated by cuttings in the spring or fall, or by layering; and will grow in any common garden

soil. When by age or otherwise they become naked for some distance from the ground, injuring their appearance, cut them down to within a foot of the ground; this will make them put out young wood near the roots, and in the following season they will flower again. There is an evergreen variety (*Lonicera flexuosa*), that flowers all the season, which may be considered the best of this family. It is a native of China, and should be treated the same as others. The beautiful dark green foliage of this last named variety is a great ornament, but in the winter quite the reverse.

HYACINTHINE.

(GRIFFINIA HYACINTHINA.)

This beautiful exotic, better known as the "Violet colored Griffinia," is a native of Brazil, and was first imported into Europe in 1815. It bears some alliance to the Amaryllis family. The climate of Europe is too humid for it, but no doubt in the delightful clime of the Ohio Valley, it could be brought to great perfection. This rare and valuable plant is thought to possess considerable beauty. The color is a rich blue, the same used by some of the ancient painters, made by the calcination of the stone called *lapis lazuli*, therefore not to be surpassed; this richness and softness of tint are perceptible in this flower alone. Its magnitude and novelty of color, with a

pleasing physiognomy, make it indispensable in the greenhouse or parlor. The leaves are two or three, recumbent, ovate, oblong, prettily veined, crossing the longitudinal nerves, being thus both novel and interesting; flowers in a sub-capitate umbel funnel shape, and gaping, composed of six segments of pure white in the centre, with a delightful broad ultra-marine blue margin.

The Hyacinthine does not grow over a foot high; a desirable height. It should be grown in five inch pots, well drained in a maiden soil, with a small portion of sand. This, like all other South American plants, requires a time of rest, which is during the winter months, when it must be kept from frost. It needs no water while dormant. In the spring, when the bulbs begin to grow, give a little water as the plant increases in growth, also increase the quantity, and when in flower and while perfecting its foliage, be liberal in the supply; upon this depends much of your success in growing and flowering it to perfection. This, combined with a clear atmosphere, will make it one of our best bulbs in cultivation. When the leaves die down, it can be either re-potted or packed away until spring. The bulb should never be placed over one third deep in the soil.

HYACINTH.

(HYACINTHUS ORIENTALIS.)

"Shade loving Hyacinthus! thou comest again,
And the rich odors seem to swell the flow,
And the lark's song, the red-breast's lonely strain,
And the songster's tune, best sung where wild flowers blow,
And ever sweeter where the sweetest glow."

This very prepossessing bulbous flowering plant is a native of the Levant, and is quite common about Bagdad, where it flowers very profusely in its native state in the spring, at the same time as with us; being highly fragrant, makes it very desirable. The bulb is glabrous, succulent, sending forth a scape with a spike of flowers of funnel shape, half six-cleft, ventricous at the base; some are single and others double; the latter, strictly speaking, is the *Florist's flower;* but the single are gaining favor fast, and more sought after for early flowering in glasses. The double is certainly more desirable for beds or borders of the flower garden. The single emits its fragrance more sensibly, and its spikes are more studded with bells than the double, and for this reason they are more sought after, to flower in glasses.

The Hyacinth has been cultivated in Europe above three hundred years, and was imported by the Dutch originally from the Levant; and it appears that the climate of Holland, more especially about Harlem, is more congenial to its culture than any other part of Europe, and the Dutch florists have bestowed much pains on it. It appears that

the first double flower was produced by one Peter Voerhelm, during whose life a double Hyacinth was worth about five hundred dollars in the Harlem market; since that time a single root has been sold for one thousand dollars. The roots increase fast, and the mania being carried high, competition caused a considerable decline in the trade; but, of late, bulbs have been sold as high as fifty dollars. Catalogues are published annually, both in Holland and England, containing about two thousand, with names, from a clear white to what is called a black. Blue, pink, and white are the predominant colors, both single and double. Yellow is not common, therefore rarely met with; what is so called in the catalogues to the contrary notwithstanding.

Could we see a bed of these enchantingly fine flowers, it would fascinate us to such a degree, as probable to give a distaste to cultivate on such a small scale as we are compelled to. The bulbs brought to this country and sold, are nothing but the refuse of the Harlem market; still our ideas on the subject being somewhat limited, make them appear more beautiful than they otherwise would. I do not consider any place that does not receive the benefit of the salt water breeze, altogether congenial to the culture of the Hyacinth; there are some situations more suitable than others. The Hyacinth in this country, does not flower well over one or two years. Eight years ago, when in Europe, I selected some choice flowers from different establishments, and the first season they flowered well; so that my expectation was fully realized. As they increased fast, I disposed of some; the balance were planted in my garden with the same care as the first season, in full expecta-

tion of their continuing fine; but my surprise was great, when I found them the second season, worthless. I then surmised, from their degenerating, that the climate was not congenial, which opinion has been strengthened by experience. It is still my impression that if the bulbs could be acclimated, the obstacle would be obviated. I then commenced planting the small offsets, saved from the large bulbs; some flowered the first year; in the second, I took them up and replanted them into another bed, at the proper season, which appeared to answer well, until the fourth year, when the season was rainy and nearly the whole rotted. Thus my golden dreams vanished, and in some measure I was satisfied it was fallacious to cultivate them, unless renewed every season, with fresh imported bulbs at a cheap rate. Still, it would be as well for others to try from offsets, for my being unfortunate is not sufficient proof that others should not succeed. I should therefore recommend their being planted in a rich sandy loam, from the middle of October to November, in an open, airy situation, in a bed four feet wide, which will enable a person to weed from either side with facility. Have your bed of any length, according to the number of bulbs to be planted. Plant seven across at equal distance, and nine inches apart the other way. When you are ready to plant, make a channel five inches deep, and lay the bulbs on sand, which will prevent water from stagnating or settling against them; and also keep the bulbs warm; when thus placed, draw the soil over them, and when the cold weather sets in, cover the bed with manure, or tanner's bark, about one inch thick, to preserve the bulbs from the severity of the frost, and the deleterious effects of heavy rains, both being detri-

mental. In the beginning of March, if the bulbs begin to grow, and the weather is mild, it will be necessary to remove the protection from the bed by degrees, as sometimes we have hard frost in this month, which would check them much. In April, the scape will begin to appear, and about the time the flowers begin to expand, it will be necessary to tie them to a small stake neatly, as the rain will beat them down, and destroy the beauty of the corolla, or bells.

The Dutch florists' plan is to take the bulbs up about four weeks after they have done flowering; but in this country, they had better remain until the foliage is entirely destroyed. Some people are desirous of flowering Hyacinths in glasses, which, probably, from their not succeeding better in this country, is the best plan; to effect this object, it is best to plant the bulbs in the open ground in October, to remain there about six or seven weeks, to induce them to throw out root fibres more regularly. Then take them up, wash them clean, and put them in "Hyacinth Glasses" (made for the purpose), and fill up with soft water, so that the bulb will be immersed about a quarter of an inch; change the water whenever it becomes fœtid; they must be kept in a warm room, for if allowed to freeze, your glasses will break. If the bulbs are not buried before placed in the glasses, it will be necessary to put them in a dark place for some time after, otherwise they will not throw out root fibres regularly, nor look so well, nor bloom so fine. Bulbs can be put in glasses until the middle of January, with tolerable success. Hyacinths, thus treated, seldom flower the second year. If you wish early flowers, plant them in pots. They will make a good ap-

pearance in the parlor, and will do nearly as well as if planted in the open ground, provided you do not give them much water. You can forward them by plunging the pots in a hot bed, but if forced that way, they will be good for nothing afterwards.

ISMENE AMANCÆS.

This beautiful bulbous rooted plant is a native of Amancæs, near Lima, in Peru. It is found in all parts surrounding that place in great splendor; a fine, rich, deep yellow flower. It sends forth a scape about thirty-six inches high, with several flowers six inches long, and about four inches across, and its delightful fragrance makes it very desirable in all collections of Lileacæs.

The bulb is not large, and to grow it in perfection requires a sandy loam, and a medium size pot. Like all the Ismenes, and its tribe, it requires a season of rest. This plant is much celebrated in Peru on the 24th of June (when in bloom), by the natives of that country, as the Hawthorn is in England on the 1st of May; perhaps more so, for the churches in Peru are decorated with it at that season.

This plant was named Ismene, after the daughter of Œdipus. It is scarce in this country, but is cultivated in England to great perfection. For a fine description of this flower, I refer the reader to a book entitled "A Visit to the South Seas," by C. J. Stewart, M. A.

IRIS.

The German peasant wreathes with flowers in rich attire,
For sun-tressed Iris weaves for him her urns of fragrant fire;
But we have a holier gem our lowly home to illume,—
The flowers of love our lattice lights with undecaying bloom."

This is a very numerous family of plants, useful as well as ornamental in our flower garden. The Persian (*Iris persica*) is a very pretty bulbous rooted plant, and being of a dwarf growth, is suitable for pot culture, more particularly for being rather tender. These bulbs are often brought to this country with others from Holland, and have been in cultivation over two hundred years; they are easily raised in glasses, like Hyacinths, or in pots. This flower is a delicate blue and violet color, of great beauty and fragrance, the latter predominating so much that one plant will perfume a room. If raised in pots, the soil should be a rich sandy loam; and if potted in November, they will flower early the following spring.

To raise them in the open ground will require considerable trouble, for the frost and rain are alike injurious; neither does their beauty attract observation so much, on account of its dwarf-like appearance, as when in a pot.

The Snake's-head Iris (*Iris tuberosa*) has been in cultivation much longer than the Persian; this is also imported from Holland. It does not succeed well in this country, being hard to vegetate. This, no doubt, arises from being kept out of the ground too long. The Chalcedonian Iris (*Iris susiana*) has striated leaves, with a stem about one

foot high, of the most beautiful species, the leaves sword shape, the stem erect, with one flower. It flowers in June, and is a native of the Levant, whence it was imported in 1596. This species requires the same treatment as the Persian. The Spanish Irish (*Iris xephium*) is a native of Europe, and is often imported into this country; the leaves awl-shaped, channelled; stem two flowered, corolla blue and yellow, petals narrow, height two feet. This bulbous rooted plant has been much improved by culture.

We have about four kinds in cultivation in this country. The most common is the blue; but in England, where the greatest attention is paid to their culture, their lists amount to upwards of fifty, of all colors and shades, and their prices vary from twelve to eighteen cents each. The Great Bulbous rooted Iris (*English Iris*) is much larger than the Spanish; the flower stalk is about twice as high, with flowers in proportion, and equally as prolific in variety of colors. They can be purchased in London at one dollar per dozen. The time to remove these bulbs is from August to September, and they should never be kept out of the ground more than six weeks, as it will affect their bloom.

The two last named varieties seed abundantly, which should be sown in drills as soon as ripe, and the plants will appear in the spring. The fourth year they will flower, thus repaying a person well for his trouble, as no attention is necessary but weeding, and a light protection during the severity of the winter weather. These bulbs should be removed every third year, for if allowed to remain in the same place a longer time, they will work their way into the ground, and be entirely lost.

ICE PLANT.

(MESEMBRYANTHEMUM CRYSTALLINUM.)

"Chaste as the icicle
That's curdled by the frost from purest snow,
And hangs on Diana's temple."

This is a singular plant, and is much esteemed by the ladies. It is a deciduous trailer, with large oval leaves, acute, frosted, three nerves beneath. The root is biennial, and is generally cultivated as an annual for the parlor. It does best in the open ground where it will cover a large space, but should be potted in the fall and brought into the house, as it will not stand the winter in the open ground. When the sun shines on this plant, it appears to be covered with ice, and to the eye is both brilliant and novel. The pellucid studs surrounding the stem in the summer appearing like ice, gives the plant all the novelty desirable for the culture of ladies; besides it is a plant requiring but little attention. It will grow in any garden soil, and in almost any situation, requiring but little attention after the seeds are sown in the spring. A full exposure to the sun is best, as it displays its beauty more perceptibly. When the young plants have formed four leaves, transplant them separately into two inch pots, and, as the plant increases, shift them into one of four inch, or plant them into the open ground. If for pot culture, make a trellis of some sticks for the plant to be fastened to. The flow-

ers of this plant are white, possessing no particular beauty. Cuttings can be taken off in the fall, and will root readily if not over watered.

INK FOR ZINC LABELS.

"Take one drachm of verdigris, one drachm of sal ammonia; powder half a drachm of lampblack to ten drachms of water, mix them well together." This will make a first rate article for writing with, and will supercede the old plan of placing names on sticks.

INDIAN CRESS, STERSION.

(NASTURTIUM.)

"Then springs the living herb, profusely wild,
O'er all the deep green earth, beyond the power
Of botanist to number up their tribes;
Whether he steals along the lonely dale,
In silent search; or through the forest, rank
With what the dull incurious weeds account,
Burst his blind way; or climb the mountain rock,
Fired by the nodding verdure of its brow;
With liberal hand has nature flung
Their seeds abroad."

This very useful plant has been under cultivation two or three hundred years, and was first discovered in Peru. It is known there as the *Mastraco de Peru*, and with us by the common name of Stersion. The first account we have of this species, is under the botanical name of *Tropæolum major* and *minor*. It was cultivated for salad, possessing a warm flavor, not unlike our common cress; from this alone arose the name of *Nasturtium*. The berries were used for pickles, gathered when young and tender, and by many considered equal to Capers. Of late it has been more cultivated for its flowers than for other purposes. The most common of this species is the yellow, the first introduced for cultivation. We have now added to the list, an orange color; a blood-red, very rich in appearance; a new spotted, so termed by florists, but in reality striped; orange scarlet color, and sweet scented, which makes the variety desirable

in every garden. There is also a double variety, which is cultivated in the green-house, but is rare in this country, as well as many others.

We have now to record another new variety in color, *Tropæolum azureum*, which was first discovered by a Mr. Miers, in his travels in Chili; the thing appeared so improbable among florists, that little confidence was placed in the statement, for it was regarded by those versed in colors, as matter of doubt, whether species of flowers that produce a pure yellow, as the Stersion, could also produce the blue. No analogy could be found; for instance, we have the double yellow Dahlia, but no blue; a blue flower may sport to red or white, but not to yellow. Again, yellow flowers may sport to white, or red of different shades, but not to blue. The primitive color of the Hyacinth is a blue; we often see catalogues with yellow ones in it, but it is a pale yellow ochre color, not a bright yellow. We have the yellow Rose, but who ever saw a blue one? Neither have we seen the yellow Pelargonium (*Geranium*). But to the subject; we have to state a fact, that *Tropæolum azureum*, a blue Nasturtium, has been introduced into England by a nurseryman of Exeter, which was discovered by a Mr. Lebb, near Valparaiso, in South America. From the novelty of such a plant, being in opposition to the long argued system of metamorphosis of colors in flowers, it commands a high price.

All of this tribe will grow readily from cuttings; but in propagating that way, the plants are shy in seeding. This plant, strictly speaking, is perennial, but is cultivated as an annual, except the double variety; and, of course, the blue will be cultivated the same way for years to come.

To propagate this useful and ornamental running plant, the seed should be sown early in the spring, and fastened to a trellis. It is a great bloomer (provided the soil be not too rich), and will continue to bloom until the frost destroys it. The plant does not seed freely until the evenings begin to be cool. When the seeds are wanted for pickling, they should be picked as soon as full grown and plump, while tender, leaving some well formed berries for seed. The flowers are frequently used in garnishing dishes for the table, and make a very good appearance in a large bouquet with other flowers, for the table or mantel piece, through the summer. If grown by cuttings, and kept in pots through the winter, they should have a rich sandy loam, and be watered sparingly in December and January, and in May be planted in the open ground, where they will thrive in almost any soil; sandy loam is preferable to any other.

IPOMŒA COCCINEA.

"——— Who poured the richest hues,
In varying radiance, o'er thine ample brow,
And like a mesh those tissued stamens laid
Upon thy crimson lip — thou glorious flower?

This, as well as all of the Ipomœas, bears a great analogy to the common Bind Weed (*Convolvulus*), the latter being annual, while the Ipomœa is a perennial, and generally fusiform rooted. They are generally natives of the West Indies, while some few are natives of this country.

I. coccinea requires to be sprouted in a hot-bed, to make it flower early. It will grow readily by cuttings, and so will the whole tribe. They are decidedly ornamental. This variety is a beautiful orange scarlet, quite novel in color. It flowers in June, and lasts until late in September, when the roots should be lifted. The leaves of the Ipomœa are generally cordate, accuminate, and angular at the base. The peduncles are five flowered. The calyx warted and bearded, though there may be some little variation in some.

There is one of late introduction, with fine purple flowers, *I. learii;* also *I. grandiflora*, which has large white flowers, with acute petals. To enumerate the whole tribe would be consuming too much time and space. Nearly all deserve the fostering care of the florist; they are certainly some of the most desirable trellis flowering plants we have, as their tendrils will catch without trouble, and the shade produced is light and airy, at the same time showing their graceful flowers to advantage all the summer.

The Ipomœas are raised by seeds, like the Convolvulus, but must be protected from frost; being perennial, they will not flower until the second year; they are therefore best kept in a dry situation during winter, where the rats or mice will not disturb them. They may be preserved with Dahlia roots.

JACOBEAN LILY.

(SPREIKELIA FORMOSISSIMA.)

"I can find treasure in the leafy showers,
Which, in the merry autumn time will fall;
And I can find strong love in buds and flowers,
And beauty in the moonlight silent hours.
There's nothing nature gives can fail to please,
For there's a common joy pervading all."

This genus of flowering bulbs is better known under the name of "Jacobean Lily," and is an old variety of flowering bulbs. It was imported from South America, where it is found in its pristine state about ravines. The cardinal beauty of this flower alone, has established the merit of its position as a desirable plant, and worthy of cultivation in every collection, however limited a person's tribe of Amaryllideæ may be. It may be considered as tender, and if planted out in the open ground in April or May, will flower well. The tube is fringed, corolla nodding, with a very ringent limb; stamens included in the involute of the lower segments. In October, when the foliage will be sufficiently matured, take them up. The leaves should be dried gradually in a room, and then packed away until the following spring. This bulb, like the Amaryllis, flowers before the leaf or grass is expanded; and such is the rapidity of its growth, that the flower stem will be up and the flowers expanded, taking you by surprise, in a few days; and if planted in a rich soil, they will frequently throw up two stems with several flowers at a time, with such imposing rich crimson

scarlet colors as to surpass any velvet in comparison with their richness. The flowers are not so compact as the Amaryllis tribe, but their richness of beauty fully compensates for that deficiency.

The cultivation of *Spreikelia formosissima* is generally confined to pot culture, in which it will do equally as well as in the open ground. They will require attention, and a shady situation, if confined to the pot. It is said, if you take up the bulbs in the summer, and cut off the foliage and root fibres, and plant them, they will flower again the same season. I should be loath to vouch for its correctness, having never tried the experiment, but heard the above related by an experienced gardener. If true (which I have no reason to doubt), it must necessarily weaken the bulb, and prevent its flowering the following season; no benefit could be gained by such an experiment.

I would suggest to those who wish to flower these bulbs in pots, that after their object is attained, the blest plan would be to sink the pot under ground, as the bulbs would mature their foliage better; for the flowering of the Amaryllidæ tribe depends more on the state of ripeness the leaves attain, than almost anything else. Their flowering the following season depends wholly on what state of perfection the leaves are brought to; it is useless, therefore, to expect perfection, unless the foliage be well brought forward, which is not apt to be the case if retained in the pot. The Amaryllis does not produce well if planted under the soil, which will account for bulbs generally not flowering.

Spreikelia formosissima was formerly called *Amaryllis formosissima*, but their treatment is different from the *Amaryllis*, although it may be a species of that tribe; you must

place the bulb two inches deep from the surface soil. This bulb is increased by offsets, not by seed, although the pollen is perfect and abundant, a circumstance that appears singular; whether arising from the climate or what other cause I am at a loss to tell.

"And now remains
That we find out the cause of this effect,
Or rather say, the cause of this defect,
For this effect defective comes by cause."

These bulbs can be purchased for twenty-five cents each, a sum within the reach of every person who has the least pretension to the culture of flowers, even if not in possession of a flower garden.

JAPAN ROSE.

(CAMELLIA JAPONNICA.)

"Glorious Camellian blooms to find,
In the jealous realms of far Japan,
Or the Epedendron's garland twined,
Round the tall trees of Hindostan."

This is one of the most superb exotic plants we have in cultivation, and endowed with natural beauty; it is not only interesting, but valuable in our estimation. It is moreover from a country to which we are indebted for some of our choicest gems in floriculture.

In this country the Camellia is a green-house plant. A closer association with this delightful exotic, is a sufficient proof that it will do as well in the parlor, and far better in a pit; but it will not flower as early, and will withstand considerable frost. In England it is frequently planted in the open ground, but it would not answer in this country; the cold nights in the spring are generally accompanied by very warm sun through the day, which is enough to kill any plant.

It was originally imported from China and Japan, and is a species of the Tea Plant. The name Camellia was given in honor of G. J. Kumel, a celebrated botanical writer of the last century, whose name in Latin was Camellus. There is great symmetry in the form of the leaf, which is a beautiful dark green, with a fine gloss, giving the plant a fine appearance at all seasons. Were the leaves not so dark there would be some resemblance between it and the Orange Tree. The flower in some respects resembles the Rose of the garden; hence arose the name of "Japan Rose." There appears a formality in them, as if made of wax; still their hues are so blended as to defy art to imitate them.

On its first introduction the colors were limited, but the skill of florists has succeeded in hybridizing them so as to produce hues innumerable. This has made the plant indispensable in all green-houses, not only as a valuable acquisition for the appearance of their flowers, but as an article of profit, by cutting their flowers in the early spring.

This delightful evergreen is cultivated to greater extent in some parts of Europe than England; for I perceive, by a catalogue issued by Mr. McKay, at Leige, that he has two hundred and ninety-four varieties in his collection, being

twice as many as in any establishment in England. Many new varieties have been raised in this country; several of them, I perceive, have been added to the English collection, being considered first class flowers. Such is the reputation these flowers have attained in this country, that it will not be many years before our florists will have a greater list of *good* flowers than any in Europe.

There are several methods of propagating this plant, but I will confine myself to the most approved. To raise from seed, it will be necessary to sow them as soon as ripe; some Camellia growers prefer sowing them in February, keeping them in sand until that time; either will do. Plant the seeds in the centre of a small pot of rich soil, and keep them rather moist. Unless you use bottom heat, the seed will not come up for twelve months; it will generally flower the third year. If you discover one of superior merit, increase it by inarching on the stock of the single variety. If your plant be single, keep it to inarch on.

Stocks for inarching are increased by cuttings from the the single red or white, as well as seedlings. To increase by cuttings, it will be necessary to take them off the last of July, or beginning of August, at a joint or bud. Young wood is preferable, if not too tender; it should be inserted in a pan filled with soil, nearly one half sand, and must be covered with a bell glass. They will strike more readily if placed in a bark bed. The following spring your plants will begin to grow, and may be potted off carefully in the fall.

When of sufficient size, say from March to August, they should be inarched; this is considered the best and most approved way to propagate valuable and scarce varieties.

Take the plant intended to propagate from, and place it on a bench where it cannot be disturbed; then take a knife and cut a piece about two inches long from the side of the branch intended for the stock; then take the stock, and cut it in the same manner as you did the other plant, and as near the same size as possible; when this is done, take the scion and stock and place them together; then tie them with bass. Be particular and make the bark of each meet; cover both with grafting wax, to exclude the atmospheric air from the wounded parts. The stock must be placed on a bench higher than the large plant, and in such a position, that neither can be disturbed, or it will fail to unite. A great nicety is required in the performance of the operation. It must be done in a careful way, or you will not succeed. In six weeks examine the plant, and, if found to be united, tie it up again, for fear of accident, for three or four weeks longer, when you may cut off the head of the stock, and separate your plant from the parent, with great care, to avoid accident; then dispense with the bandage, and treat the plant the same as an old one.

The first season, allow no flower buds to grow, as it will weaken the plant. The process of inarching is easier described than performed, for unless a person has seen the operation performed he had better pay an experienced gardener for instruction. The Camellia is frequently increased by budding, which is much practised in France with decided success, and is meeting with approval amongst florists in this country. Every eye or bud makes a plant, and the budding can be performed at any time when the bark parts freely. During this operation, the plant should be kept in one degree of heat; it

is immaterial whether bottom heat be used or not, so long as the place where the plant is kept, be uniform.

The operation of budding the Camellia is performed in the same way as fruit trees. I find the Camellia will grow as well in rich sandy loam as any soil, and it should be potted every year or two, at the farthest, giving a good drainage at the time. The spring is the best time to attend to it, immediately after done flowering.

The Camellia is a plant that requires a deal of water at most seasons, and it should be watered over the foliage every evening through the summer, to prevent the red spider from infesting it. In the winter, it is best to keep them in a pit to save trouble, prior to which wash the plants all over with soap suds, and syringe them with clean water. To those who have no pit, the parlor will do; the degree of heat in the room should be as uniform as possible, rather cool than hot, just above freezing point, giving them as much air as possible in mild weather. The Camellia will flower from January to April; if in the green-house, earlier; but it can be brought to flower at almost any season. In the summer, the plants should be kept in the shade, receiving the benefit of a free circulation of air, and the night dews.

JAPAN LILY.

(FUNKIA ALBA.)

This Lily is a beautiful border plant, and has passed under the cognomen of "Japan Lily," until lately, when botanists have discovered it does not belong to the *Hemerocallis* tribe of plants. It is a native of China, and has been much esteemed for its fragrant flowers. The roots are tuberous, and of easy culture, being quite hardy, throwing up a stem in July, with a number of white fragrant flowers. Its fragrance is equal to the common White Lily. The leaves are a light green, deeply ribbed; foot stalk of about four inches, which is generally cut down with the first frost in the fall.

This plant is easily propagated by seed, or dividing the roots in the spring or fall; if by seed, they should be sown in a pan, or box, and be protected through the winter, and brought forward in May. In the fall they should be potted and treated the same as full grown plants. It does not do so well by pot culture, as in the open ground, as the plant sends its root fibres deep into the soil. As a border plant it is desirable, and delights in a rich, sandy loam. There is a blue variety, but the flowers possess no fragrance, or particular beauty; it is therefore not so desirable as *F. Alba.*

JASMINE.

(JASMINUM.)

"Then, how serene! when in your favorite room,
Gales from the Jasmine sooth the evening gloom."

Of the Jasmine there are several varieties in cultivation, both in the hot-house as well as the green-house. The one most generally cultivated is *J. officinale*, a fine ornamental, deciduous, climbing plant, bearing white flowers of a delicious fragrance, making their appearance in June, and which continue until checked by the early frost. The leaves are pinnate and acuminate; the heads generally upright. This desirable fragrant shrub was introduced into Europe in 1546, and was little known, except by reputation, until the latter part of the seventeenth century. This was owing to the selfish disposition of the Grand Duke of Tuscany, at Pisa, the only person known to possess the plant. Nor would it have been known to the floral world for years after, had not his gardener given a sprig in a bouquet to his sweetheart, which she planted; and from that same sprig she propagated many, and sold them at a high price. To this circumstance we are indebted for this gem, and no thanks to the sordid inclination of a despot.

Although this plant is found to be hardy in Europe, it requires protection in this country, and is consequently treated as a pot plant. There is no doubt that this shrub, when well established in the open ground, if laid down in November, and covered with mats until April, and then

raised and fastened to the trellis, would make one of the best arbor vines extant; the vine is thrifty in growth; and the flowers emit unrivalled fragrance for a great distance. The innocent appearance of the clusters of delicate white flowers, which appear in such profusion, contrasted with the deep green foliage, throws quite an enchanting appearance on the surrounding scene

> "The Jasmine, with which the queen of flowers,
> To charm her god, adorns his favorite bowers;
> Which brides, by hand of neatness drest,
> Unenvied rival! wear."

Then, again, we have two of more recent introduction, bearing yellow flowers, of more robust habit, not so much inclined to run, and nearly as fragrant. These are more tender than *J. officinale*, and well adapted to parlor culture. They should be pruned ever spring, to make them flower more abundantly. All these varieties thrive in a rich sandy loam, and are easily propagated by cuttings in the spring, managed in the usual way of propagating by cuttings. I have never discovered that these exotics form seeds, and therefore presume they will not in this country.

There is another beautiful and desirable variety, commonly called the Cape Jasmine, *Gardenia florida*, a native of China, which succeeds well in the Eastern and Southern States, but not in the West, though this may arise from mismanagement. I have always found it to do well, by potting every spring, with the following composition:—Leaf mould, cow manure four years old, and loam, equal parts; then add one tenth of the above of sand well incorporated; and if left out of doors all the winter, and turned

over occasionally, the better. The flower of this variety is as large as a rose, but not quite so double; it is delightfully fragrant. Its appearance is more like the Orange Tree than the common Jasmine, the leaves being heavier ribbed. It will grow to a great height in a favorable situation and soil, and is easily propagated by cuttings. The other varieties are not so well known. The above are the best, easiest managed, and kept through the winter, and of course most desirable.

LAVENDER.

(LAVENDULA SPICA.)

The common Lavender of the garden is a valuable shrub, a native of the South of Europe, and grows from three to five feet high. The stem is brown and woody, and is divided into slender, straight, herbaceous, pubescent branches, with opposite sessile, linear, and glaucous leaves. The flowers are small and disposed in whorls around the sprouts, forming cylindrical spikes. The corolla is tubular and labiate, the lower lip divided into segments, the upper the largest; with the filaments within the tube. The flowers possess a strong aromatic odor, and contain a volatile oil which can be procured by distillation, and is much used by perfumers. The stem and flowers are generally placed in drawers to impart a fragrance to clothes, and it is said that the moth will not go where it is kept. The flow-

ers should be cut for that purpose while the blossom is expanded, in dry weather; they will retain their fragrance for months after being dry. It is raised readily by seed and cuttings, and will grow in any garden soil.

LEMON TREE.

(CITRUS MEDICA.)

This ornamental exotic was first introduced into Europe about the same time as the Orange Tree, and is a native of Persia, but is now almost identified as indigenous to the tropical climate, where it grows to great perfection. This tree was much cultivated in Greece, in the second century; therefore is one of the oldest plants in cultivation, and resembles the Orange much. The leaves are larger and possess a degree of fragrance, and are slightly indented; the foot stalks are destitute of winged parts which belong to the other species. The blossoms are a little purple on the outer surface, and the fruit differs, having a nipple at the end; the color is rather darker.

There are several distinct varieties of the Lemon, which are very perceptible on examination. It is easily raised from seed sown in the spring (those obtained from over ripe fruit of the fruiterers are the best for that purpose). The seed should be dried before sown, and will germinate freely. In the third year the plants should be budded in July; the soil a rich loam, and the plants shifted when the

pots are filled with roots, into one a size larger. The best time to shift them is the fall; for if allowed to stand in that condition through the winter, the roots are apt to mildew. When the plants are shifted is the proper time to trim and make them as compact as possible.

The fruit of the Lemon affords an essential oil by distillation, the juice is of essential service, possessing a peculiar, pleasant acid, and grateful to the palate, and when mixed with water and sweetened, as a summer beverage, denominated "lemonade," it cannot be surpassed either for the sick or healthy person. The juice is also useful for its medical properties, being a specific for the scurvy, for travellers going on long sea voyages. The rind of the fruit is often candied, and used in pastry, such as cakes and puddings. It is the principal ingredient in the celebrated "Stoughton's Bitters."

LUPIN.

(LUPINUS.)

There are several varieties of this hardy annual in cultivation, which afford a pleasing prospect in the flower garden. They are known to many as the "Sun Dial." The Lupins are natives of different parts of Europe, flowering from July to September, in any garden soil. The flowers are formed in spikes in the shape of the pea-blossom, colors various. The perennial varieties of the

Lupin are beautiful, and are propagated by seed or division of the roots, the same as other perennials. They require a rich sandy loam to grow them to advantage.

LILY OF THE VALLEY.

(CONVALLARIA MAJALIS.)

"Seek the banks, where flowering elders crowd;
Where scattered wide, the Lily of the vale,
Its balmy essence breathes; where cowslips hang
The dewy head; where purple violets lurk,
With all the lovely children of the shade."

This Lily is, generally speaking, a great favorite. It is a native of Europe, and perennial in duration. The flowers are small, sweet scented, and found growing in the copses in England, bearing their beautiful globe shape, companulate, white, drooping flowers in May. The scape is half cylindrical; the leaves two, ovate, lanceolate, radical, something resembling the Tulip, except being slightly striped. The modest appearance of this flower is certainly a great recommendation, independent of its fragrance. It is said that its perfume has attraction, and draws the nightingale. This, I presume, is a mistaken notion; for there are other flowers in England whose fragrance is by far superior to the Lily of the Valley. It should be borne in mind, that the nightingale delights in retired situations, away from the bustle and noise of the farm house, like the

thrush. These birds can be heard of a moonlight night, singing in concert with each other, creating very pleasing sensations to the listener, though there is something melancholy in their "still, sweet voice," that never fails to charm.

This plant is not so much cultivated in this country as formerly, although easily managed. The situation should be shaded from the mid-day sun, and airy at the same time; the soil rich and rather moist. It is increased by division of the roots, which are numerous, and is easily accomplished in the fall. It does very well when treated as a pot plant.

LILY.

(LILIUM.)

"The Lily's height bespeaks command,
A fair imperial flower,
She seemed designed for Flora's hand,
The sceptre of her power."

Of this tribe of beautiful plants, there appears to be sixteen species, all considered choice flowers. The bulbs are scaly, with leaf stems growing from three to five feet high, of various colors and shapes. The Martagon or Turk's Cap is a splendid variety, but is not calculated for this climate; the severity of the winter kills them if exposed. It is occasionally cultivated in the green-house where it

succeeds very well. The Tiger and Orange variety are quite common in our gardens, and withstand our winters. The former is frequently found in the meadows in the West. The Orange is known by its orange scarlet flowers; when the sun shines on them they appear like fire, and are commonly called the Fire Lily from this circumstance. Both are splendid flowers. There are many more, but not well adapted for this clime, unless confined to the green-house. The whole tribe is increased by offsets, which are thrown off every season, more or less. These bulbs delight in a rich loam.

LEMON SCENTED VERBENA.

(ALOYSA CITRIODORA.)

"——— Like the fragrant mint,
Hid in the umbrage of some lowly glen,
Thy virtues lie concealed; and only love,
In its deep research, can unlock the wealth
Of thy benignant soul, and bring to light
Its hidden jewels."

This delightful, fragrant perennial is a native of Chili, and is one of the most agreeable plants in cultivation. The leaves are ribbed, lanceolate, and terminate. The flowers are small, of a pale purple or lilac color, formed in spikes, easily managed. To propagate it, June is the best time. Take cuttings from two to three inches in

length, and place them in a box, or pan, with a light sandy soil, and cover them with a bell glass, as recommended for soft wooded plants. In five weeks they will be ready for potting off. Sometimes the weather will retard their growth; this will be observable, for unless you perceive them growing, do not disturb them.

When you transplant, take as much soil as will adhere to the roots, place them in three inch pots, and pinch off the tops. This will give them more strength by forming more roots; then place them in the shade; in the fall, remove them into the house, before the frost sets in. If you desire large plants, in the last of May place them in the open ground, where they must remain until September, when it will be necessary to pot them off, and trim them tolerable close. This will be found necessary to make thrifty plants, as the *Aloysa* will in one season put out shoots five feet long. This plant, from its agreeable fragrance, and easy management, has been a favorite plant in the green-house and parlor. The soil best suited is a sandy loam, and it requires but little water through the winter months.

LONDON PRIDE.

(SAXIFRAGE UMBROSA.)

The London Pride, or *None so Pretty*, is an evergreen, ornamental in appearance, perennial in duration, and bears small whitish flowers with small spots, from April to June. The leaves are obovate, retuse, with cartilaginous crenate, stem naked and pannicled. It makes a fine border for a bed in the flower garden. In such estimation is it held, that it may be seen in almost every cottager's garden in England, creating a lively appearance in the depth of winter, thriving in any situation, and is not affected by smoke. It is propagated by division of the root in September, forming the borders, and needs no more attention. It seeds freely, and can be increased that way, but is seldom necessary, as it increases fast by the roots and will grow in any garden soil.

LAURESTINUS.

(VIBURNUM TINUS.)

This is an evergreen ornamental shrub, a native of Spain, and is quite hardy in Europe, imparting life and beauty to the landscape all the winter. The leaves are

ovate, oblong, entire, of a dark green, bearing a corymb of white flowers early in the spring, before other shrubs begin to show theirs. It is well adapted for parlor culture, being nearly hardy, and of easy culture. It is propagated by layering, and will grow from cuttings taken off early in the spring. The soil should be a rich loam, and potted in the fall when other plants are.

MOCCASIN PLANT.

(CYPRIPEDIUM.)

"Go! cull the golden fruits of truth;
Go! gather fancy's brilliant flowers."

This is a beautiful orchideous plant, a native of this country, and found growing in swamps, near woods. The flower bears some affinity to a slipper, and is frequently called the Lady's Slipper. It also resembles some varieties of the Calceolaria, hanging pendulent, and is unique in appearance, quite fascinating to the eye. It appears to be difficult to manage in this country, although a native; this arises probably from not studying the nature and habit of the plant, a great fault with cultivators; for without this desideratum, no plant can succeed well. In Europe the florists have a house devoted to the orchidaceæ order of plants, which enables them to succeed better in their management. The soil should be taken from marshy places. The plants plentifully supplied with water when in a grow

ing state, and kept in the shade. When the leaves begin to turn color, water should be gradually withheld. They must be kept in a state of rest the residue of the season, and in the spring should be re-potted and encouraged in growth. It is perennial, and may be divided at the root, or raised by seed sown as soon as ripe. The orchideous plants, generally, are very beautiful, even beyond description; but are little cultivated in this country. This is probably owing to the florists not being compensated for their trouble, as but few persons are willing to give what may be deemed a fair price for them, when flowering plants of a lower price can be purchased to fill a vacuum these charming flowers ought to fill.

MYRTLE.

(MYRTUS.)

"Earnest, I beg—add not with toilsome pain,—
One far-sought blossom to the Myrtle plain,
For sure, the fragrant Myrtle bough
Looks seemliest on thy brow."

This is certainly a fine ornamental evergreen shrub. There appears to be a large family of them, natives of Europe, New Holland, and different parts of the globe, flowering from June to August. The flowers generally are solitary, white, and sweet scented, the involucre two leaved. The foliage differs in size, as the different varieties

will exemplify; all were held in great estimation by the ancients, and were dedicated to Venus, the goddess of Love. It was much used by the Romans, in the decorations of their triumphant marches, when celebrating some conquest, and in decorating their heads with wreaths or crowns. The plant is tender, and requires protection through the winter. It is easily managed as a parlor plant, and will grow readily by cuttings at almost any time of the year, but the spring is best for that purpose. The leaves are sweet scented, the perfume being contained in small cells, which are perceptible when looked at with a microscope. There is a double variety (*M. communis multiplex*) a very handsome shrub, of a neat appearance and a great bloomer. There is also one a native of China (*M. tomentosa*), of erect habit, and of a noble, commanding appearance. The flowers are the largest of the whole species, changing to a purplish white, after being fully expanded.

One of this tribe bears the allspice of commerce, but it requires the hot-house, and is therefore not of much account to the amateur. I have seen the common Myrtle (*M. communis*) in England fifteen feet high, standing in front of a house having a southern aspect, which had grown there for many years without protection; when in flower, it was beautiful, and an object of public admiration; a goldfinch used to build her nest in it every season, which associated the most pleasing feelings. I have heard, with regret, that the house has been razed to the ground, and the shrub destroyed. It must be evident, that this shrub is held with reverence, as we often see wreaths and garlands of the artificial substituted for the genuine at balls

and parties, where it appears more neat and chaste than the Jasmine. The broad leaf Roman Myrtle is more desirable than the narrow, and flowers more freely.

This plant should be watered occasionally over the foliage, to preserve freshness and its incomparable beauty; when found to grow straggling it should be cut down within six or eight inches of the pot, when it will form a fine, bushy head, in one season. The soil should be a rich loam, and the plant re-potted every year or two.

L. pinciana.—This is another delightful fragrant flowering shrub, perennial in duration, of late introduction from Napul. It was raised from seed by Wm. Pence, of Exeter, England, a very successful nurseryman (the same person that raised *Fuchsia exoniensis*, the handsomest flower of that numerous tribe of plants). It is more hardy than is generally supposed by the English florists. The branches are numerous and opposite; leaves ovate, large, and entire; flowers spreading in cymes at the ends of small leafy branches, out-spreading and nearly uniting, which form a compound cyme or immense truss, nearly a foot over, giving the plant a very imposing appearance. The color of the flowers is a creamy white, slightly tinged with blush.

This plant was named by Sir Wm. Hooker, and in its general character is very similar to *L. grotissina*, but more robust in habit, and in all probability not so tender. This shrub is increased by seeds and cuttings in a rich loamy soil. Its fragrance and easy culture will make it a general favorite in the green-house or parlor.

MARTYNIA FRAGRANS.

This delightful, fragrant annual is a native of Mexico. The seed of the original plant was sent from Real del Monte, in 1840, to England, where it is considered the best annual of late introduction. The flowers are on spikes arising from the point of the stem of the plant; from the base of the first spike laterals proceed, and thus, in succession, the plant flowers the whole summer, affording a beautiful contrast with the Balsam; these plants should be sown together, growing about the same height, with circumference in proportion. The whole plant is hairy, more or less; the flowers a fine, rich, crimson purple, and their fragrance delightful. It is well calculated for parlor culture, as well as the open ground, growing two feet high. It will thrive best if the seeds are sown in the fall, potted, and kept in the parlor through the winter; but will require shifting often as the roots fill the pot.

It was named after the late John Martyn, the author of several botanical works. There are several other varieties of the Martynias, all beautiful plants, but *M. fragrans* is considered the best and most valuable acquisition to the flower garden. The soil should be rich, and their general culture the same as the Balsam. Therefore, to ensure good strong plants, if the seed be not sown in the fall, it should be in February, in a hot bed, and planted out when all danger of frost is over.

MIGNIONETTE.

(RESEDA ODORATA.)

"No gorgeous flowers the meek Reseda grace,
Yet seek with eager trunk yon busy race,
Her simple cup, nor heed the dazzling gem
That beams in Fritillaria's diadem."

This sweet and generous scented annual was imported into Europe one hundred years ago from Africa. The leaves are entire, three-lobed; the involucre shorter than the flowerets, growing from twelve to eighteen inches. The flowerets are dingy white, of a delightful fragrance, particularly grateful in a room.

This favorite is known to the Dutch florists as the Egyptian Bastard Rocket; with us and the French, as *Mignionette*. Morning and evening the fragrance of this plant is more sensible than at other times. This desirable perfection, in so humble a plant in appearance, has made it a favorite; three plants are sufficient to fill a room with fragrance, and make it agreeable to the sense of smelling; it is thus in every way desirable as a parlor plant. Being of easy culture, it can be brought to flower at any season in the year.

The soil should not be rich, as it will destroy in some measure the sweet effects of its odoriferous perfection; therefore, a sandy loam is the best. It will be necessary to sow seed the last of July, or beginning of August, to have it flowering from November to February. The seeds

should be sown in September, in the open ground; pot the plants off in four inch pots, gently water them, and screen them for several days; then sink the pots in the open ground, guarding the plants against heavy rains. About the first of November, remove them into the house to decorate the window for the coming winter, where they will flower from December to February. Water the plants when necessary, which will depend on the heat of the room. If you sow the seed in pots the last of September, you will have flowering plants from March to May, affording some of the sweetest scented flowers half of the year, in the house, and amusement and pleasure at a season when many plants are out of flower.

It is said there is a variety of the Mignionette, called the Tree, of a shrubby nature, which is increased by cuttings as well as by seed. There appears to me a doubt on the subject, for the Mignionette we cultivate as an annual, by trimming and training, will attain a great height, and if allowed to spread after, will in some measure appear shrubby, and live a long time. From this circumstance, I suspect, has arisen the idea of the Tree variety. If there be another, it must be scarce, and has not found its way into general cultivation.

MESEMBRYANTHEMUM

Of these splendid succulent plants, there is a numerous family, natives of the Cape of Good Hope, most of which are green-house plants, flowering from June to September. This tribe is easily propagated by cuttings, taken off in the spring or fall, and watered sparingly at first. They are well calculated for rock work, and do well in the open ground, planted in a bed in May, about eighteen inches apart. The dwarf kinds should be placed nearest the path; they require less water than those of a more vigorous growth, which should be in the middle. To make them flower well, the sun should be allowed its full influence, or the flowers will not expand to perfection. They will require to be watered every day; and your trouble will be well paid with a splendid display of showy flowers. In October the plants should be taken up and potted. Give them good drainage and water sparingly through the winter. It will be found that plants three years old will flower best, and they are best suited for the open ground. The soil should be a rich loam, with one eighth of sharp sand. Some of the Mesembryanthemums will live out all the winter in the Southern states, if protected from the rain.

MARVEL OF PERU, OR FOUR O'CLOCK.

(MIRABILIS JALAPA.)

"Wake, then, from thy sunset bower,
Spread thy leaves, my pretty flower!
Spread thy leaves, unclose thine eyes,
For the silver moon doth rise,
And the golden stars are coming."

This is quite a common perennial, and of considerable beauty, but is generally treated as an annual. It is indigenous to the West Indies, and is known better as the "Four o'Clock." There are several varieties, all bearing handsome flowers. It is fusiform rooted (that is, tuberous), flowering from June until the frost destroys it. The flowers are in clusters, stalked, and the leaves smooth, forming a well shaped bush, about three feet high. The flowers seldom expand before four in the afternoon, hence its name Four o'Clock. The expanded flowers make a very brilliant and beautiful appearance in the cool of the evening. It will grow in any soil, is easily cultivated, and will flower the first season from seed. This is the reason why it is treated as an annual. Like the Dahlia, when it is cut down by the frost, the root should be taken up and preserved; and in the spring sprouted with the Dahlia. It will grow readily from cuttings, and will produce much better flowers than when produced by seedlings of one year's standing.

MONKEY FLOWER.

(MIMULUS.)

This interesting variety of flowers is principally from Chili and California. It is an annual of easy culture, stem smooth, leaves denticulate, slightly hairy, with smooth ribs; calyx smooth; teeth equal, sharp pointed, turning backwards; corolla twice the length of the calyx; stamens shorter than the corolla; peduncles twice as long as the calyx. The beauty of this flower has induced the florist to exert his skill in hybridizing it with decided success. The one called *M. Smithii*, is one of the finest in cultivation, being a cross with *M. revularis* and *M. variegatus*. Mr. Smith, of Islington, has met with much success with this tribe of plants. The one named after him is distinctly marked with spots on the petals, and laced round the extremity; the lower lip of the flower has three dark marks, and the yellow is of a deep and rich color. Besides these perfections, the variety is an extremely abundant bloomer, which still adds to its worth.

The seed should be sown in the fall, in pots, and preserved through the winter, when it will flower early in the spring. The soil must be a rich loam. It will do well in open ground, but shows to better advantage in a pot, as a parlor plant, or in the green house. It is also increased by dividing the roots, or by cuttings taken off in the spring and summer.

MARIGOLD.

(CALENDULA.)

"The Marigold, that goes to bed with the sun,
And with him rises weeping."

This is a numerous family of long established plants, which has been in cultivation ever since 1683. It is of easy culture, by sowing the seeds in April; when the plants are large enough, transplant them to where they are intended to flower. Persons wishing to cultivate them to perfection, should be particular and save the largest flowers for seed, and destroy all those that are not wholly double, or your variety will soon degenerate to the single kinds, which are not worth cultivating. Generally speaking, they will accommodate themselves to any soil, and where grown will scatter their own seed, and come up in the spring. Such gratuitous plants should never be saved, as no dependence can be placed on them as double flowers; therefore be more careful of the choice seeds, if you desire good flowers. Linnæas has remarked that the Marigold opens regularly at nine in the morning, and closes at three, and generally turns with the sun, like the Helianthus.

I will name a few of the varieties cultivated at present, though some are old plants, but not common. *C. graminifolia*, the grass leaved Marigold, is a perennial, and is increased by division of the roots. Between the leaves rise naked peduncles, nine inches long, bearing one flower at

the top, of the size of the common Marigold, with a purple bottom; the rays are purple without, but white within. These flowers only expand when the sun shines; they close in the evening, and remain closed in cloudy weather. They appear from April to May, when they are in the greatest perfection. They will flower again in the fall; from this, one would suppose that warm weather was obnoxious to the flowers, were it not from the circumstance of their opening only when the sun shone on them. This variety was introduced from the Cape in 1698.

C. viscosa is another plant from the Cape of Good Hope, with a shrubby stem, and upright; the bark is of a grayish color; the branches are herbaceous; the leaves covered with a shiny substance; leaves alternate, sessile, and decumbent along the branches; flowers large and red, appearing in April and May. This green-house plant was introduced in 1790.

C. chrysanthemum is the Cape Marigold, an herbaceous plant, covered with a harsh pubescence; blooms freely most of the summer, and is ornamental; flowers yellow.

C. tragus is another variety, about three feet high, with a weak stem, which requires support while in flower. It is yellow within and purple without, and fragrant, which is not the case with all this family of plants. It will grow readily from cuttings.

C. arvensis, the field Marigold, is a native of Germany, and nearly allied to the garden variety. It has been cultivated ever since 1683.

C. officinalis is the common Marigold. The most essential difference between this variety and the field Marigold consists in the stems being loftier, with paler

foliage, and the middle of the leaves are more blunt, the upper ones more lanceolate. It is a native of France, and has been in cultivation ever since 1597; the flowers are orange color, which continue most part of the summer, giving splendor to the flower garden. It was formerly held in repute for its medicinal qualities, but the march of improvement and knowledge has sent these reputed qualities to the shades of oblivion. The country people of England still use the flowers in their broth or soup. Setting aside the coloring matter, I am doubtful if there be any particular attributes in its use.

Of the Golden Marigold there are seven varieties, all considered showy flowers for annuals.

C. pluvialis is the small Cape Marigold, which is an annual, much cultivated; leaves deeply indented on the edge, of a pale green; stem declining, six inches long, leafy within two inches of the top; stem leaves narrower and more indented than those near the root; the stem grows slender as it nears the top, with the flowers at the extremity like the common Marigold; they open when the sun shines, and shut in the evening. When the flower decays, and during the time the seed is ripening, they hang down; when fully ripe, they grow erect again, when the cultivator is admonished of the time to gather the seed. This variety is a native of the Cape of Good Hope, and was first cultivated in Europe in 1726. No particular care is required in the culture of the annual variety, other than already named. Those of the green-house require no more than guarding them against frost, and their flowers are easily brought to perfection.

MONK'S HOOD.

(ACONITUM.)

Of this tribe of herbaceous perennial flowering plants, there appear to be innumerable varieties. This arises from the easy access of the bees in accumulating honey, and carrying the pollen from flower to flower, thus crossing the plants without further trouble. The following are the varieties most generally cultivated. The reader may judge of the merits of the different plants.

A. napellus is the Purple Monk's Hood. The leaves are divided down the petiole, with linear, acute lobes; ovaries three, smooth. This species is named from the form of the root, which resembles a turnip, and is a strong, active poison; flowers violet purple, alternately on the spikes; stem erect, covered with leaves, and about eighteen inches high. The ancients considered it a deadly poison; and it is frequently the case that persons in smelling the flower, such is the nature of its deleterious odor, will swoon and have their sight affected for several days. It was the custom in former times to give criminals one drachm of the root, which was sufficient to destroy the vital spark of life, so powerful is the effect on the human system. Many instances could be recorded, where persons have lost their lives by partaking of the foliage, by mistake, with vegetables. The following experiment, which I hope will not be considered irrelevant, was made by a Mr. Brodie: —"An ounce of the juice of the leaves wa-

injected into the rectum of a cat. Three minutes afterwards, he voided what appeared to be nearly the whole of the injection. He then stood some minutes perfectly motionless, with his legs drawn together; at the end of nine minutes from the time of the injection he retched and vomited; then attempted to walk, but faltered and fell at every step, as if from giddiness. At the end of thirteen minutes, he lay on his side insensible and motionless, except some slight convulsive motions of the limbs; the respiration now became slow and labored, and at forty-seven minutes from the time of the injection he was apparently dead; but the heart was found regularly contracting one minute and a half afterwards, at the rate of one hundred times in the minute, from which it would seem that the brain is not directly necessary to the action of the heart, and when that action ceases, it is rather in consequence of the cessation of respiration, which is evident under the influence of the brain."

A. versicolor is another variety much cultivated; flowers smooth, variegated; helmet low; subconical, and growing about two feet high, very firm in appearance, branching and forming a fine pyramid. It is a native of Switzerland. It is increased by tubers at the root, which it produces freely.

A. pyramidale,—flowers blue; the spur capitate; helmet closed. It bears a spike of flowers two feet high, and is the most common. It flowers in May, and makes a pretty appearance at that season. This species is also a deadly poison, and therefore ought not to be cultivated unless great caution is used. It is increased by dividing the roots.

A. venustum is a distinct variety from all others. The

flowers are sulphur yellow, pubescent outside. This plant grows two feet high; spur straight, obtuse; helmet conical at the base. This fine variety was introduced into Europe in 1807, and is a native of Siberia. There are many more of late introduction, in addition to a numerous train of hybrids, bearing beautiful flowers, but not yet common.

The Monk's Hood is cultivated in this country in the green-house, not so much from the tender nature of the plant, as for the richness of its colors, which are in perfection from May to July. It is well calculated for the flower garden, and is propagated by seeds and division of the roots.

As a narcotic, the whole tribe is dangerous, notwithstanding the beauty and variety of the flowers. To those who have children, I would say, it is better to cast it from the garden, for one unfortunate death would cause more affliction to the mind of a parent than all the culture of flowers could alleviate with their gaudy and deceptive fascinations.

NARCISSUS.

"Narcissus fair
As o'er the fabled fountain hanging still."

There appears to be a large family of these bulbous rooted perennials, which are readily increased by offsets at the root. All appear to thrive well in a rich, sandy loam,

and have been cultivated from time immemorial. Narcissus Tazetta, *Polyanthus narcissus*, is a native of Spain, and is also found on the coast of Barbary. It is one of the oldest varieties in our flower garden; quite ornamental; and is imported into this country from Holland, where it is cultivated to some extent. The word *Tazetta* is the name for a small cup which it forms in the centre of the flower on a scape of about ten inches high, with a delightful fragrance; it generally blooms in May in the open ground, but can be brought to flower in a pot, and be kept in the parlor or green-house in March. The flowers are yellow with an orange color cup; the bulb a little tender, and, when planted in the open ground, should be protected from the severity of the winter months.

Narcissus orientalis, "Narcissus of the Levant," is another fine variety, and differs from the former in some respects; still there is a great similitude in the two; the crown being more triovate and crenate, and equally as prolific in flowers. Although the flowers are white, the cups are of a citron yellow; it is ornamental, and one of the best varieties. It is imported from Holland annually, but is a native of the Levant, and is called by the Dutch "Grand Primo Citronienne."

Narcissus papyraceus.—The "Italian or Paper White Narcissus" appears to be quite distinct from the above, having a more shallow crown and a more closely crenulate margin, and a flatter ancipital scape. The bulbs are small and the corollas white or cream colored. This bulb is imported from Italy, and is generally called the "Roman Narcissus," and is also one of the most ornamental in the

whole class, and very fragrant. This, as well as the others, is rather tender, requiring the same treatment.

Narcissus Jonquil—

"Nor gradual bloom is wanting,
Nor hyacinth of purest virgin white,
Low bent and blushing inward, nor Jonquils
Of potent fragrance."

The Jonquil is a very attractive species of Narcissus, quite hardy, possessing a delightful fragrance, flowering in April and May. It is often flowered in pots, and kept in stands with or near the Auricula; this, no doubt, is because it flowers at the same time, and the sweetness of its perfume, mixing with that of the Auricula, diffuses a most pleasing and delightful treat in the cool of the evening. The Jonquil, when planted in the open ground, should not be removed for several years, for it does not flower so well if removed every season. The spathe is three flowered; segments reflexed, spatulate; cup in the centre much shorter than the segment, spreading crenate, much like the Tazetta, not forming so many flowers, but may be considered a good parlor plant.

The double variety is suitable to stand in a glass with water, the same as the Hyacinth.

Pseudo Narcissus—

"When early primroses appear,
And vales are decked with Daffodils,
I hail the new reviving year,
And soothing hope my bosom fills."

The *Daffodil* is the most common kind in cultivation, perfectly hardy, and a native of England, where it is found

in the woods in great profusion. The bulbs are perennial, flowering in April and May, throwing up a scape two edged, with a single yellow flower at the extreme; segment of a sulphur yellow, with a serrate, crenate orifice; it is often planted in bunches in the borders along lawns, or round the edge of beds, where it increases very fast. From England this bulb found its way into Holland, whence it is imported into this country under the specious name of "Soleil d'Or," thus disappointing those who purchase them under that name.

Narcissus Poeticus—

"Narcissus on the grassy verdure lies;
But whilst within the crystal fount he tries
To quench his heat, he feels new heats arise;
For, as his own bright image he surveyed,
He fell in love with th' fantastic shade;
And o'er the fair resemblance hung unmoved,
Nor knew, fond youth! it was himself he loved."

This is the "Poet's Narcissus," and an old favorite, which has been the subject of many poems by writers of old. This highly scented bulbous rooted plant bears a white flower in May. The segments are reflexed, imbricate at the base, cup expanded, flat; the anthers shorter than the tube; leaves erect and narrow. It often disappoints expectation, for if the flower bud, before expanding, is pressed with the finger and thumb, it blasts the flower and prevents its expansion. Indeed it may be considered very uncertain, at the best; for sometimes it will not flower for several years.

Although this flower has attracted so much attention in

olden time, at this day it is hardly worth cultivation. The classic associations connected with it endeared it to many, but at the present day it hardly commands a corner in the flower garden. Such is the result of changes in the public mind. There are many of this species of bulbs at the present day enumerated in the Dutch catalogues, but whether they are really individual varieties, is a matter of doubt; cultivation alone will alter their appearance, particularly if not attended to with judgment. It requires the scrutinizing eye of the botanist to detect its real character. Care and attention would restore many to their high cultivated state, while others would retain their primitive standing as degenerated flowers. Then, again, those in a high state of culture may be crossed, such as Tazetta orientalis, the Roman Narcissus and Narcissus tazetta, which no doubt would produce some fine hybrids. When the Dutch bring forward their numerous lists, we should look on it with a suspicious eye, for we cannot depend on their statements with much assurance. We may meet with great disappointment, as in their Soleil d'Or.

OLEANDER, OR ROSE BAY.

(NERIUM OLEANDER.)

"There, on the banks of that bright river born,
The flowers that hang above its wave at morn,
Bless not the waters, as they murmur by,
With holier scent and lustre ——."

This is a splendid variety of evergreen shrubs, and quite a favorite. It was imported into Europe as far back as 1597, and is a native of Asia Minor, where it is found growing luxuriantly along the banks of rivers and swampy places. The original color of the flowers is a pink. There is a white variety in cultivation possessing no merit for beauty, and for that reason is not much thought of. There is another with a striped leaf, and one a dwarf, both bearing pink flowers, and desirable as parlor plants. The large and common variety will grow from twenty to thirty feet high, but is getting into disrepute, for when so large it is difficult to manage. In the Southern States it will do well in the open ground.

All of the Oleander family are easily cultivated in a rich loam, and will grow from seeds, cuttings, or layers. To increase from seed, they should be sown in the spring, and will soon come up and flower the second season. It is seldom we find a florist cultivate the single variety, unless for the sake of experiment, it being the only kind that will seed. June is the best time to propagate from cuttings, when they will strike root freely, if the soil be kept damp; for that reason a pot is the best to strike them in, and they

must be kept in the shade. When rooted, pot them off and treat them the same as old plants.

When plants become large, the best plan is to put them in the ground sideways, so that the top can be bent down with greater facility, and layer them the same as you would the Carnation; in six weeks, if well attended, they will be ready to pot off. Many people will plant them in the open ground in the summer to save trouble, a plan that ought to be deprecated, as the plant becomes too large to manage, and causing much more trouble. The best plan is to keep them in as small pots as possible; this will make them flower more freely; repot them every fall or spring. As the plants progress in size, they should be shifted into one a little larger. This plant should not be placed out of doors too early in the spring, as one night's frost would do incalculable injury. It will stand the frost better in the fall than spring.

When the Oleander is planted in the open ground, and lifted in the fall, great care is necessary not to injure the root fibres, or you will make the top of the plant flag, and in all probability it will never rise again. The only remedy then is to cut off the tops, but you thus disfigure the plant. In the winter, this plant must be kept in the house, out of reach of frost; it will require little or no water when in a state of rest, which will be from the middle of November to the latter part of February. If well managed, it will flower from June until late in the fall.

ORANGE TREE.

(CITRUS.)

"Here Orange trees, with flowers and pendants shine,
And vernal honors to their autumn join;
Exceed their promise in the ripened store,
Yet in the rising blossom promise more."

This exotic is an old and much esteemed favorite ornamental tree. It is cultivated in the green-house and parlor, and will bear considerable frost, but is best if protected.

This delightful fruit bearing tree was first introduced into England in the reign of Queen Elizabeth, in about 1600, and the first is supposed to have been planted by Sir Francis Carew, at Beddington, in the open ground. They did well, but had to be covered with a shed through the winter; unfortunately the winter of 1739-40 destroyed them. They were considered a great curiosity in their time, for some had attained fourteen feet high, and their branches extended fourteen feet; they were nearly two feet round the trunk.

The Orange generally flowers in May and June; its color is white, the petioles winged, and the leaves elliptical, acute, crenate; the fruit globose, with a yellow rind, possessing a sweet, juicy flavor; they grow freely from seed sown in the spring, and the seedlings should be budded in July or August to insure their bearing fruit, when two or three years old. It is supposed that the Orange is a native of Spain, and that it will live for several hundred years, under favorable circumstances. It is much

cultivated in tropical climates, and has become an article of commerce in all parts of the globe. When treated as a pot plant, it requires a rich soil, plenty of air, and abundance of water in their growing season, but little in the winter, for if over watered at that season, it will drop its leaves, and not recover before the following spring.

There is a large family of the Orange, some edible, and others cultivated more for ornament. The whole tribe is suitable for ladies' culture in the parlor, and when grown large and difficult to manage, it would be best to part with them, and recommence again with the seed.

PHEASANT'S EYE, OR FLOS-ADONIS.

(ADONIS AUTUMNALIS.)

"As many drops of blood as from the wound
Of fair Adonis trickled on the ground,
As many tears as Venus shed in showers;
Both tears and drops of blood were turned to flowers."

This is a pretty annual for the flower garden, exhibiting its blood red flowers generally from May to October. The stem is branching, and grows about one foot high, and the leaves are three and compound; the flowers cup shape, opening earlier or later, depending entirely upon the time the seeds are sown. The flower is a particularly bright red color, the pericarp reticulated.

This plant is familiarly known in the fields in England

as a weed. Its beautiful appearance has made it a favorite in the garden, nearly as much so as the Anemone, to which it is somewhat allied, and may be easily recognised with that and its varieties. Classic story says this flower sprung up where the blood of Adonis fell, and a fable was concocted from the circumstance of the wound being inflicted by a boar, while hunting; hence the name of Adonis Flower. The signification of the Pheasant's Eye is the great affinity in color to the eye of a bird of that name in England; the centre being black, and surrounded with a blood red. It was formerly supposed it possessed medical properties, but the advance made in chemistry has abandoned the idea of that quality. It is of easy culture, accommodating itself to almost any kind of soil. This, like a few other annuals, if sown in the fall, will withstand the severity of the winter; in the spring it should be transplanted to where it is intended to flower. By sowing the seeds at different periods it can be brought to flower at any time in the season, thus making it a desirable plant.

PORTULACA.

(PURSLANE.)

"Thou art a reveller of day,
A fair rejoicing child of night;
Glad, while the sun beams o'er their play,
But drooping in the quiet night."

Portulaca thellasoni, splendens, and *gilesii,* are very hoary, half hardy, succulent plants, of late introduction. They are a species of Purslane, known so well as a weed in our flower garden, and so difficult to eradicate. These beautiful plants are decidedly ornamental in the flower garden, bearing flowers of a showy description, of different colors. It has a procumbent stem, and diffused branches; leaves glabrous, alternate, and seldom opposite; flowers terminal in four, one expanding at a time, cup shaped, showing their beautiful corollas only in bright sunshine; stamens inserted with the plate in the base of the calyx, variable in number, all fruitful; capsula one-celled; seed small, round, and numerous, of a lead color; when ripe, the cap is thrown off, exposing the seed in a cup, and if not gathered without delay, they will be scattered by the wind. The flowers last but a day. As the plants increase in size, the more numerous are the flowers, and they will continue to expand until cut down by the frost. *P. splendens* is a rosy crimson, *P. thellasoni* orange scarlet, *P. gilesii* a purple.

The Portulaca or Purslane tribe are natives of the Cape of Good Hope, New Holland, and South America, and

many other parts, all of easy culture, either by seed or cuttings taken off any time through the summer, which will grow in any common garden soil. These plants, so lately added to our flower garden, are not only valuable for their splendid appearance, but they make an admirable pickle. The seeds should be sown early in the spring, and they will generally appear in about thirty days. When one inch high, they should be transplanted. — Where a plant has once flowered, innumerable seedlings will appear early in the spring; they can be easily transplanted. They are desirable for the parlor, and can be allowed to fall over the sides of the pot, exhibiting a pleasing effect. When in a bed by themselves, they have a magnificent appearance beyond description, and should be in all well regulated gardens.

PASSION FLOWER.

(PASSIFLORA.)

"Who loves a garden loves a green-house too;
Unconscious of a less propitious clime,
There blooms exotic beauty, warm and snug,
While the winds whistle and the snow descends."

This exotic beauty is a general favorite, and may be considered one of the handsomest climbing plants attached to the green-house. It was named by Linnæus. The plant is named from *passio*, and *flos* a flower; the cross

in the centre, surrounded by filaments, is said to be emblematical of our Saviour's Passion. This species of flower has been in cultivation for more than two centuries, and comprises a numerous family from Asia and other parts. The larger part requires the genial warmth of the green-house to bring them to perfection, while others are desirable for the parlor, and can be trained around the window during the summer, giving the room a novel appearance with their beautiful flowers; in October they can be cut down or twisted around a stick, and placed away until the following spring.

P. cærulea is hardy, and will live out of doors with a slight protection. The leaves are composed of five lobes; the flowers pale greenish white; the filaments purple at the base, white at the middle, and blue at the tips. It will continue to grow until killed down by the frost.

P. kermesina is one of the best in cultivation. It is rather tender, but may be brought to flower well during the summer in the parlor; the wood is rather slender, but free in growth, and abounds with flowers, which are a beautiful crimson, forming a fine contrast with its delicate foliage; the leaves are three-lobed, and the under part of the young leaves, of a purple cast.

P. middletoniana or *fragrans*, and *P. actinia*, are delightfully fragrant varieties. These, and many others are very desirable, but to name all would occupy too much space. All the varieties will grow readily from cuttings in the early spring, and also from seed. The pots must be well drained, and should be not less than nine inches for a full grown plant. The soil must be

a rich loam. In summer they need no further care than any other plant, which is of a running nature; it is, therefore, one of the most desirable exotic trellis plants in cultivation. In the winter they require but little water, and may be kept in a pit or warm room, but in their growing season they require abundance of water, and the young shoots should be kept free from each other, as they progress in growth; for if once entangled, they will be much damaged in your attempts to extricate and loosen their tender branches.

PIMPERNEL.

(ANAGALLIS ARVENSIS.)

"Sar bonny Kate bound her golden hair,
With a velvet wreath for the village fair,
And tripped with the grace of a gay gazelle,
Where blushes the delicate Pimpernel;
For a prophetess true is that lonely flower,
She warns us ever of tempest hour;
When the rain-cloud shadows her humble head,
She folds her petals of brilliant red,
And keeps her sunny heart warm within,
Like a fair girl shutting out grief and sin."

This is a delightful little annual, a native of Europe, whose flowers appear to be as sensitive to the changes of the weather as the barometer. It is often called the "Shepherd's Weather Glass." The leaves are ovate,

sessile, and dotted beneath; the corolla, expanding only in fine weather, is ragged, glandulouse. It will succeed in a sandy loam, and grow from cuttings or from seed. The flowers are orange scarlet, of engaging appearance, and require a trellis to show them to advantage. Their pretty little corollas open only when the sun shines; when the clouds obscure the sky, and it is likely to rain, they close up. This is a singular instinct in this plant. It flowers from June to September. Although considered a weed in Europe, and found only in cultivated fields, it is a great favorite not only with the florist, but with birds and insects, who seek and devour the seeds with avidity.

The beauty of this flower recommends itself to the notice of the ladies. When on a trellis, its numerous flowers of scarlet, with a purple circle at the eye, which open at 7 o'clock in the morning, and close at 2, make a beautiful appearance.

A. cærulea is the blue flowered Pimpernel, having a carmine spot on the base of each. As the scarlet is marked with the purple, some of the ancient writers are of opinion that the blue is the female and the red the male plant. It has often been remarked that sheep will not eat the blue variety, but will the scarlet. This appears strange, and shows there must be a vast difference in the two plants. Both plants are highly esteemed, and should be cultivated in the same room; their beautiful contrast in colors makes them more interesting.

A. fruiticosa, the large flowered Pimpernel, is another and desirable variety. The leaves are more lance shaped and less oval, and more splendid than *A. arvensis*, and dif-

fer materially, as it remains open night and day, the weather having no effect on the flowers. It grows readily from cuttings, and must be kept from frost through the winter; it is also propagated by seed. It will not seed unless planted in the open ground in the summer; it will be best, therefore, to keep some in the house and some in the garden. It was introduced into cultivation in 1803.

A. latifolia, the broad leaved Pimpernel, and *A. monelli*, the blue Italian, bear some affinity to each other. The first was introduced in 1759, the latter in 1648; both are desirable plants, but as they approach so near, one is enough in a collection.

A. tenella is called the Bog Pimpernel; it is a delightful flowering plant, found in boggy situations in Europe, flowering from June to August. The flowers are erect, on long axillary stalks; corolla a beautiful rose color, deeply divided; stamina clothed with numerous and curiously jointed hair. The nature of this plant not admitting of its cultivation in the garden, makes it a pot plant for the parlor. It must be kept in a saucer of water, to make it flower to perfection, and the soil should be taken from a marshy place. The other plants require a loamy soil.

POMGRANATE.

(PUNICA GRANATUM.)

This is a beautiful shrubby perennial plant, which will attain the height of ten feet. It is a native of Arabia, Persia, and Japan, and is cultivated chiefly for the beautiful appearance of its double scarlet flowers, at the ends of the young branches. The petals are round, somewhat wrinkled, and inserted in the upper part of the tube of the calyx; the fruit is globular, of a dingy yellow, the rind divided internally in many cells, each containing an acidulous pulp, and oblong angular seed; the leaves are opposite, oblong, pointed at each end, and of a bright green color, glossy, on short foot stalks.

In tropical climates the Pomgranate is cultivated for the fruit, which is a pleasant acid, and of sweet delicious flavor, much praised as a desert among the higher classes of people; but with us the fruit is worthless. It is only cultivated for the ornamental appearance of the flowers, which are certainly noble in mid-summer. It is easily managed, and will grow in a rich loam; in the winter it may be placed in the cellar, out of the reach of frost; in April it should be repotted, and encouraged in its growth by watering sparingly at first, then place it on a lawn in the open garden, and it will expand its beautiful flowers to perfection. It is increased by suckers, which it sends up plentifully, and which should be taken off in the spring, and potted in a rich loam, and treated the same as full

grown plants. Cuttings, also, may be taken off in the spring, and treated like other cuttings.

PANSY, OR HEART'S EASE.

(VIOLA TRICOLOR.)

"Pansies, sweet tenants of the shade,
In purple's richest pride arrayed,
Your errand here fulfil:
Go! bid the artist's simple strain
Your lustre imitate in vain,
And match your Maker's skill."

It would be impossible to trace this beautiful flower to its origin, from its having passed under different names. The Greeks called it *Phlox*, a name now assigned to a very different flower. Some trace its name and origin to the days of fable, and identify it with Io, daughter of Midas, who, as the early poets say, was changed by Diana to a violet, to hide her from Apollo, who was enamored of this earth born beauty. It is a lovely allegory, for this modest flower, after the lapse of so many centuries, still retains the bashful timidity of the nymph, partially concealing itself in its own foliage, and that of the neighboring shrubs and plants, and shrinking from the gaze of the sun in his vernal search for his long lost Io, the object of his love. In modern times it has gone by the more prosaic name of "Love in Idleness," "Johny Jump-up," "Heart's Ease," "Ladies' Delight," &c., but as we are adopting

French fashions in almost every thing, this pretty plant has taken the cognomen of Pensée or Pansy, by which it is generally known in Europe and America. It has grown much into repute, of late years, with florists. Twenty years ago, its size did not exceed a ten cent piece, though even then attractive to the eye of every person who had the least pretension to taste, or love for flowers. I have seen children sit in a garden and look at it with admiration for a long time, as if conscious of its surpassing beauty. By means of hybridizing this splendid variety of violets, the florist has brought them to the *ne plus ultra* of perfection, and we now see them of enormous size, over two inches in diameter. It is extremely variable in size and in the color of the flowers; the stem is angular and branching; the leaves oblong, crenate; stipules lyrate, pinnatified; petioles somewhat longer than the calyx, and stand well, presenting a majestic loftiness. The color of the petals is beautifully contrasted, and the eye distinctly pencilled. These beautiful flowers should encourage a refined taste, among the ladies in particular, as they are well adapted for their culture, and are easily managed. When planted in a border, in their tasteful style, what can be more attractive? The unbounded and endless variety of colors possessed by this flower, convinces me it is destined to be a favorite. No department in Flora's whole catalogue could be more congenial to the refinement of ladies than this unsurpassable plant; and to enable them to cultivate it with the greatest ease, I will lay down such instruction as will give them the least embarrassment.

The seed should be sown in pans, in the middle of February and March, and again in August and September, in

a sandy loam, and as evenly as possible; for if crowded, the largest plants would cause the smaller to damp off. It will be necessary to keep them well watered; and when the seedlings have acquired a few leaves, transplant them. On one point I would caution young beginners: never transplant in the months of June, July, or August, as the weather in this country is too warm; consequently your plants would die for want of nourishment, before they could make fresh root.

Roots may be divided at any time in the year, with the exception of the months above named, for transplanting. In dividing the roots, do not use a knife, let it be done with your fingers, and let each part be furnished with root fibres; and before you put them into the ground or pot, be sure you wash the soil from the roots. The Pansy is a great deteriorator of soil, which makes it absolutely necessary to use this precaution, to meet with success. Cuttings make the best plants, and produce the largest flowers; and the cultivator's success depends on this system of operation. Cuttings should be taken from young and healthy plants, and not exceed three joints, which must be cut with a very sharp knife close to the joint. If the knife is dull, it will press the joint injuriously, and cause a failure, and if you leave any wood below the joint, it will rot; therefore be careful, and avoid a stem that is hollow, or you will fail.

When your cuttings are ready, water the soil in the pot, and when settled, put in the cuttings to nearly one inch of the top, and press the soil close about them; then cover them with a small bell glass, or tumbler, to exclude the air; place them in the shade for about two weeks; give

them air and water; when the leaves are dry cover them again, or the plants will damp off. In six weeks you will begin to perceive them growing, and if inclined to run up tall, pinch off the tops. Sometimes your plants will grow tall without having any roots, but pinching off the top will make them throw out root fibres. Pansies propagated in this manner, seldom seed well; but that is of no consequence, as you can get the finest flowers by cuttings, and seed can be always purchased at seed stores.

Pansies are sometimes propagated by layering, but this is done chiefly with the common varieties, the cultivation of which is hardly worth the trouble bestowed on them, while we have such fine varieties. The large Pansy does not seed so freely as the common kind, and the plants will have to be watched closely when you discover seed pods, for it is difficult to collect them. The seed pod generally hangs down, as if to guard the vessel from rain, and dew at night; but the day before the seed is discharged, the capsules will be reversed by holding themselves up; when you find this to be the case, you may pinch them off and keep them in a glass to dry and open, and the seed may be sown soon, as directed above.

Whenever you find your plants surrounded with ants, take the roots up, wash them with soap suds, and plant them in another situation, or they will be destroyed by the aphides at the root. Should you discover the ants at a time the roots could not be removed with safety, take some suds made from whale oil soap, and water them two or three times; this will destroy the aphides at the roots, and the ants will soon disappear. The Pansy delights in the

shade, but not under the drop of other plants or trees. It would be better to place them in the open ground.

PRIMROSE FAMILY.

(PRIMULA.)

"I know not what it was that made
My heart to love thee so;
For though all gentle things to me
Were dear, long, long ago,
There was no bird upon the bough,
No wild-flower on the lea,
No twinkling star, no running brook,
I loved so much as thee;
I watched thy coming every spring,
And hailed thee as a living thing!"

This pretty little flower of poetry, the Primrose, is a native of England, and is found blooming in the greatest perfection in copses, in the margin of brooks, lanes, and other shady situations, during the months of March and April. The leaves are ovate, toothed, rugose, villous beneath; umbels radical; flower stalks as long as the leaves; corolla flat. This tribe is generally considered to consist of the Polyanthus, Primrose, Cowslip, and Oxlip, all of which are cultivated as florist's flowers. How these four can be considered as the same family, I am at a loss to tell, for the Polyanthus appears as distinct

from the Primrose, as the Auricula is from the Polyanthus; consequently they will be treated accordingly.

The Primrose is a perennial rooted plant, and can be propagated either by dividing the root or by seed. It has been the theme of many a ditty with poets, for several hundred years, and has sustained its reputation as a favorite flower up to the present day, which is more than can be said of many flowers now in cultivation, ten years hence. The color of the flower is a brimstone yellow, possessing a fragrance much like the Anise. When a boy, I have frequently found them in copses, of a purple crimson, beautiful in appearance, growing on a single stem, and flowering profusely. Where the ground contains moisture these flowers are most profuse and luxuriant, and in a few minutes a person could pick as many as he could conveniently carry in one hand, at a season when scarcely any other flowers had made their appearance, thus enlivening our imagination at the approach of spring

The Cowslip:–

"Transplanted thus, how bright you grow;
How rich a perfume do you yield!
In some close garden, Cowslips so,
Are sweeter than in open fields."

Yes! the Cowslip luxuriates in the open meadows, or in the garden, throwing up a scape with a bunch of flowers each about the size of half a dime; in color inclining to the orange, bestowing quite an enchanting appearance. Frequently, amongst this tribe of flowers, will be found the Oxlip, which appears to be a hybrid between the Primrose and Cowslip, having the stem of the latter and the

flower of the former. I have never seen either of the latter sport in colors in the fields, but have by cultivation; their colors, even then, are dingy, and, I think, are no improvement on their natural hues. Primroses have the ascendency in that particular, for we see them yellow, white, red, crimson, and carmine; there are also the double yellow, white, dingy white, lilac, crimson, and carmine, all of which are magnificent. The double are styled by botanists, *monsters*, being a sport of nature; but it strikes me if nature would sport more among her bounteous gifts in the flower department, we should feel grateful for such monsters.

The Primrose family can be easily propagated, by dividing the roots in the spring, or fall. It must not be done with a knife, but with the fingers, or with the end of a budding knife of ivory or bone; when divided, pot each part that has root fibres, give them a gentle watering, and set them in the shade. To propagate from seed, it will be necessary to sow them in February, in a box or pan, with a compost that will retain moisture; cover the seeds lightly, and in six weeks they will be up; be careful and not let the sun shine on them after nine in the morning, or you may lose the plants. The Primrose is considered hardy, and is really so after the first season in this country. In the summer this plant, like the Polyanthus, is subject to be injured by the red spider. This insect can be easily destroyed by soap suds, made of whale oil soap; but so long as you can keep the plants in a healthy, growing state, there is no danger from them. The saccharine matter contained in the leaves, affords them nourishment as the summer advances, which must be checked by water.

ing freely over the foliage, or your plants will dwindle away and die.

PHLOX.

(LYCHNIDEA.)

This is decidedly one of our best native flowering plants, and is found growing in perfection in the Western States. It is perennial in duration, very showy, and strikingly ornamental. It is well calculated for the border of the flower garden, by its flowering so freely at almost all seasons of the year, depending on the variety. It is more cultivated in Europe than in this country, where many new hybrids have been added to the list by fecundation; some of the dwarfs are well calculated for pot culture.

The general character of this family of plants is pretty well known; they differ but little, and the difference is most conspicuous among the hybrids. The capsules are three-celled; the segments divided into five; the corolla flat, supported by a tube about one inch long; stigma trified; calyx five cleft; flowers pannicled, on corymb elongated on the stem, or terminate, and gorgeous in appearance. In the open ground the plants require but little attention or protection through the winter, and are easily propagated by seed, cuttings, or division of the roots. To propagate from seed, if new varieties be the object, you must take the pollen from one flower with a camel's hair

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pencil and lay it on the pistil of the one you wish to cross, of a different variety. By this means your object may be obtained; it will be useless to expect a hybrid unless the fecundation takes place. This will necessarily require a great nicety to perfect. If by cuttings the stem should be cut in lengths of about three joints, taken any time before the flowers show; or take the lateral shoots, which will do as well, always cutting close under the joint; if by division of the roots, it should be done in the spring or fall.

The Phlox generally flowers best the second season after removal. To be grown well the plant should be removed every three or four years. The soil should be a rich loam, not too dry, as the plant delights in moderately moist situations. By following this rule the cultivator will find himself amply remunerated for his trouble by a profusion of very desirable flowers. The late Mr. Drummond, in his travels through Mexico, discovered a very splendid annual variety, much esteemed and cultivated to great extent; it has been named *P. drummondii*, in honor of that botanist. This variety will strike readily from cuttings; and it seeds freely in any common garden soil.

PÆONY.

Of this species there are two varieties, both magnificent plants, and worthy of cultivation. There are about fifty sub-varieties, shrubby and herbaceous. The herbaceous

is tuberous or fusiform rooted, of easy culture, and perfectly hardy. It is a native of Switzerland, and other parts of Europe, and has been in cultivation about one hundred years. The most splendid variety is the *P. whitlegii*, a large white, of splendid appearance, and fragrant. *P. fragrans* is a rose color, possessing the odor and color of the rose, and is frequently called the Rose Pæony. *P. humeii* is a pink. All three are double and fine, and desirable in all well arranged gardens of moderate size, but too large for a small one. It is increased by dividing the root in the fall.

For new varieties, the seed should be sown in September, or early in the spring, in a box or pan, drilled in about half an inch deep. When the plants come up, they must be kept clean and be watered moderately in dry weather. It will take several years before the seedlings flower; they must be top-dressed every fall, and require some protection for the first two seasons; to save trouble they may be planted in the open ground. Although perfectly hardy, it is best to have the roots covered with old manure. If it is desired to increase these plants, it must be done with a knife, leaving an eye to every piece that has fibres. This should be done in October; and if the roots are not too small, they will flower the next spring.

This variety should never be removed in the spring, if it can be avoided, as it will not do so well; besides, it will prevent the plant from flowering that season. The shrubby kind is a splendid variety; if allowed to remain out of doors, it will require a slight protection, and, in consequence of flowering early, the flowers are likely to suffer from the effects of spring frost. It is also increased by

seed, and by layering; if by seed, in the same manner as recommended for the herbaceous. As this variety is more tender than the other, it will require more care. The shrubby may also be increased by cuttings, and by grafting into the other root.

The following directions are copied from Maund's Botanic Garden, part vi, page 241:—"In February, select any of the stems of the Pæonia Moutan, or all may be used; and, at the distance of half an inch from the centre of each bud, both above and below it, cut entirely round the stem a small ring of the bark, rather more than the sixteenth of an inch wide, in the manner of common ringing, as practised on fruit trees; thus every bud will occupy an inch of the stem, when the direct construction of its bark is obstructed, both above and below, by the rings which have been cut out of it. The stems thus prepared, are then to be laid, horizontally, about three inches beneath the soil, leaving only the leading bud at the end of each branch above the surface. In six months every bud will have made vigorous shoots, and in general will have two radical fibres at its base. In August remove the soil from above the layers, and, having raised the newly made shoots, carefully separate each young root from the main layer, by passing a small knife from one ring to the other, cutting out about one third part of the old stem. The young plants should be immediately potted, to remain till they are required for planting out in their final situation. After thus gathering the first crop of young plants, the old layers should be again covered with good soil, and left as before; and in the following summer, a second and greater crop

of plants will be produced than the first season; and, what is more remarkable, they will issue from various parts of the stem, where no trace of a bud was previously indicated."

This variety should be kept in a pit in this country, during the winter, and when the flower buds are ready to expand should be brought into the green-house, or parlor, to perfect them, which makes a magnificent show. After their flowering season is over, they may be placed out of doors for the remainder of the season.

The best varieties of this species are the *Moutan Banksii*, a pink color, very large and double, and beautiful in appearance; and the *M. papaveracea*, poppy flowered. The flowers of the latter are single, white, with a purple centre, and very magnificent, although single. The other varieties are fine, but the above are considered the best by florists.

PETUNIA.

"Some, more aspiring, catch the neighbor shrub
With clasping tendrils, and insert his branch,
Else unadorned, with many a gay festoon,
And fragrant chaplet; recompensing well
The strength they borrow with the grace they lend."

This is a beautiful flowering plant, biennial in duration, and branching; leaves elliptical, smooth edge, of a light and

delicate green. It may be considered one of our choicest exotics, of late introduction, flowering from May until the frost kills them in the fall. From its habit of branching it will cover the space of twenty feet. It is a native of Buenos Ayres, from which place the seed was sent by Mr. Tweedie fifteen years ago. It will grow in any common garden soil, and the more exposed to the sun, the more freely will it flower. It is therefore well adapted for planting out in the open ground, and is well suited for the flower pot, or trained to a trellis of any shape. The propensity of this plant for branching so much, and flowering at the same time, gives it a commanding appearance and makes it desirable for the parlor window.

There are several varieties, and when planted in a bed or border, they will easily cross, and seed freely. The seeds are small, but easily saved, if required, and will sow themselves and come up early in the spring, when they can be transplanted. The Petunia is easily propagated by seed, or by cuttings taken at any season, and when planted it needs no further trouble than clearing out the weeds. Its easy culture and fine appearance will always recommend it to public favor. The roots of choice varieties should be taken up in the fall, the branches partially trimmed off, and parted; they will keep through the winter, if guarded against frost, and will flower better the second season. All biennials will not flower the first season; this plant is an exception, though generally cultivated as an annual. The English florists have been very successful in hybridizing this variety, and have produced some of the most splendid flowers imaginable. It is to be regretted that but few will reach this country, as the plants do not pack well.

POLYANTHUS.

(PRIMULA.)

"Fair plant! as plentiful as fair!
Before thou meet'st the eye,
Thy fragrance fills the summer air,
And tells that thou art nigh."

This beautiful herbaceous evergreen is a perennial, highly ornamental, nearly equal to the Auricula. It flowers from March to May. The leaves are ovate and toothed, throwing up a stem about six inches high, bearing a beautiful truss, and emitting a delightful fragrance; it is every way grateful for its delicacy. It is considered by some botanists to belong to the Primrose family. A Mr. Herbert has endeavored to prove this, in the London Horticultural Transactions, Vol. iv, page 19. He states that from the natal seed of the Cowslip, he raised a Primrose, a Cowslip, an Oxlip, a Polyanthus, a Hose-in-hose Cowslip, and a Primrose bearing its own flowers on a Polyanthus stalk. From this circumstance he is induced to believe that all are of the same family. This doctrine may have suited other times, when flowers were not so well understood as at present. There is no doubt that Mr. Herbert was sincere in his belief; but his seed may have got mixed by accident, or some of his flowers may have become impregnated, thus producing the difference in varieties. I have tried the experiment; gathering the seed myself, but the result was always the same as the original plant. There is no florist at this day that will advance such an hypothesis;

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anthus be a sport of the Cowslip, or Oxlip, it is strange, "'tis passing strange," that it should not be found to return to its primitive state, as other plants will, at times. There is no doubt the origin of the Polyanthus is lost, like the Carnation and many other plants, that have been in cultivation from time immemorial. The Polyanthus appears to be a distinct species, as much so as the Auricula; cultivation, no doubt, has much improved the one as well as the other. It is frequently the case you will find the Primrose sporting in the copses in England, where they bear a stronger affinity to the Polyanthus than the Cowslip. Whoever saw the Cowslip sport to the Polyanthus in the fields? There is no doubt but the Oxlip is a sport between the Primrose and Cowslip. The seed of the Cowslip can be purchased of various colors, which is effected by culture. The flowers differ widely from the Polyanthus in beauty, form, and fragrance; therefore the Polyanthus must be a different variety by itself.

This beautiful and desirable perennial is increased by dividing the roots in the fall. The seed should be sown, if you wish to obtain new varieties, in February, in a box or pan, and be very lightly covered; it is desirable to cover the soil with snow, if there should be any about the middle of the month, as you could thus sow the seed more evenly, and when the snow melted, the seed would be carried down to a sufficient depth to germinate. The soil should be a rich loam, and be kept moist, and receive the benefit of the morning sun only. When the plants appear, they should be protected against the spring frosts and heavy rains; and as soon as the seedlings will bear transplanting, set them about two inches apart, in a shady

situation, and regularly water them through the summer. In September the seedlings should be potted off singly, and be removed to a place secure from frost during the winter, as seedlings are tender.

To increase by division of the roots is the only way of increasing the same variety, when you have a choice flower. September is the best time for that purpose; it should be done with the thumb and fingers, not with a knife, which has a tendency to destroy the plants. It is necessary to divide the root once in two years, at farthest, or your plants will degenerate or die. There is one thing remarkable in good plants; by allowing them to seed, they will frequently die. This must be guarded against, unless you have a duplicate plant. Seedlings generally produce the best flowers, and are the only certain means of getting new varieties. The amateur should only save those plants that prove firm and with elastic foot stalks; never allow more than seven flowers on a plant; observe that the eye is round, of a clear yellow color; the ground color of a rich crimson and velvety appearance, with a clear and distinct edging round the petals, which can be observed at twenty feet distance. The flower should be perfectly flat, without curving either way. The pin eyed plant is considered by florists not fit for a show plant. This plant is liable to be destroyed by the red spider; and the plan recommended in the treatise on the Primrose family is also applicable to this, to prevent their destruction. Maiden soil from the commons is the best for this plant, with one third cow manure, at least three years old, mixed three months, and exposed to the weather before used.

PYRAMIDAL BELL-FLOWER.

(CAMPANULA PYRAMIDALIS.)

This flower was once held in great estimation, but of late years has fallen into disrepute, notwithstanding it is a fine perennial flowering plant. Fashion may displace many of our old border flowers, but eventually they will be replaced, and many of those of later introduction, cast aside. The leaves of this plant are ovate, smooth, and cordate; the stem upright, elongated, milky, growing about four feet high, pannicled, with branches from bottom to top; leaves petiolated, shortly toothed, and terminated by a gland; corolla five cleft, spreading. This plant is found in India and Savoy, and was introduced into England four hundred years ago. It is increased by cuttings, division of the root, and by seed; by cuttings from the stem before the flowers expand, by division of the roots in the fall, and by seed the same as other perennials. Like *C. medium*, it can be grown in pots and have a good effect. *C. pyramidalis* is called the "Steeple, or Chimney Campanula," on account of attaining a lofty growth; it was often trained to trellis work on account of branching, and then placed in front of the fire place to flower. It is perfectly hardy, delights in a rich loam, but does not like a composition made from fresh manure; the compound therefore ought to be made six months before being used. The soil should be two-thirds sandy loam, one-third cow manure (four years old at least). They will then flower in the greatest perfection in

the house, if allowed plenty of air in the day, from June to August.

ROSE CAMPION.

(AGRASTEMMA CORONARIA.)

This is a pretty herbaceous perennial, and well adapted for the border of the flower garden. It is known as the "Mullen Pink." There are several varieties, some bearing rose colored flowers, and others a flesh or dingy white; there is also a double variety, but it is scarce in this country.

The single varieties are raised from seed sown in April, in good garden soil; in the second season they will flower, and can then be increased by dividing the root in the fall. It was originally imported from Italy, is perfectly hardy, and remains green through the winter, enlivening the scene when scarce any other perennial assumes a pleasing aspect.

ROCKET LARKSPUR.

(DELPHINIUM AJACIS.)

This is a beautiful annual for the flower garden, growing about eighteen inches high, of various colors, and all double, flowering from May to June. Like many other valuable annuals, it succeeds best if sown in the fall, drilled in rows, in a bed; and, if lightly protected in mid winter, will, in the spring, give the garden as much grandeur as a bed of Tulips. There are a number of other varieties in cultivation, some perennial; but the Rocket is decidedly the best, and easily cultivated. The soil should be rich; never sow them in the same bed the second season, as the Larkspur is a great deteriorator of soil. In the spring a second sowing should be made; they will thus be in flower at different periods.

ROSE.

(ROSA.)

"If, on creation's morn, the King of Heaven
To shrubs and flowers a sovereign queen had given,
O, beauteous Rose! He had anointed thee,
Of shrubs and flowers the sovereign queen to be!
The spotless emblem of unsullied truth;
The smile of beauty, and the glow of youth;
The garden's pride, the grace of vernal bowers,
The blush of meadows, and the eye of flowers."

The Rose is generally considered the *Queen of Flowers*, and deservedly so; its beauty, fragrance, and majestic appearance, unquestionably command our admiration. The attributes of this inestimable beauty have never lost one atom of merit, from its earliest culture down to the present time. It is so well known to the common observer, at first sight, as to require no particular description, and all the eulogium lavished on this prominent beauty, or any of its varieties, would fall short in doing them justice.

Many rivals of late have been brought forward; the most formidable among them is the Dahlia, equal in beauty but deficient in odor, leaving the Rose still the diadem of the world, in floral greatness. Could the Dahlia be once endowed with that essential to perfection, *a grateful fragrance*, then, indeed, might the lover of that flower have some pretension to rivalship; until then, the Rose, the queen of flowers, must and will reign, predominant.

"Eye of the garden, queen of flowers,
Love's cup, wherein nectarous power,
Engendered first of nectar,
Sweet nurse-child of the spring's young hours,
And beauty's fair character."

The history of the Rose can be traced as far back as two thousand years. Pliny, in his time, enumerated several varieties; the one most cultivated then was the Cabbage Rose, the one so common with us, which, notwithstanding it is so old a favorite, still retains its merited standing in the florist's garden.

The Rose has been more extensively cultivated in Egypt, and along the Ganges, in India, than with us; this probably may arise from the florist's occupation being more divided here in the vast number of different plants in cultivation. The Persians have been more attentive to its culture than any other people, that is, to a particular kind; and we are indebted to that country for the celebrated Otto of Roses, an essential oil extracted from that flower, which is imported into this and other countries as a perfume. The smallness of the quantity extracted makes it dear, and it may be known, when genuine, by its being in a congealed state, apparently as if frozen; the warmth of the hand will restore it to a liquid state. A celebrated traveller that has visited the Palaces in Persia, describes the places like fairy land; every piece of ground is studded with these heavenly flowers, containing the most exquisite perfume known, which is inhaled with every breath you draw, while the eye is captivated with their innumerable double flowers, surpassing all imagination; neither is this resplendent show confined to the gardens, but their rooms

are decorated with them, as if their presence was essential to their existence: —

> "Where the soft Persian maid the breath inhales,
> Of love-sick Roses, wooed by nightingales."

The Rose was originally dedicated to Aurora, being the emblem of youth, and to Venus as the emblem of beauty and love; to Cupid, that harbinger of danger to the female heart, from whom it was given to Harpocrates, the god of silence. The Heathen Mythology is thus partly made up by this delightful and prolific flower, the theme of whose beauty has been sung by our most celebrated poets, affording so much subject for their versatile pens, operating on their minds as the dew drops afford nourishment to the exhausted plant, after the influence of the exuberant sun.

The varieties of color in the Rose are innumerable, as well as difference in habit. It is easily cultivated either by seed, cuttings, layering, budding, and by suckers at the root. Each kind has its peculiar system, and must be treated accordingly. To propagate the hardy or garden Rose from seed, the hip which contains the seed should be kept dry, rubbed out, and sown in the spring. Sometimes the seed will require one year to germinate, unless brought forward in a hot-house, which is not often in the possession of the amateur. It should be sown in a shady situation, and be kept moist. The soil should be a leaf mould and sand, equal parts. If the seed is sown in pans or boxes, it could be more conveniently removed into different situations, if found necessary. The seed should not be planted over a quarter of an inch deep. As the seedlings grow and show about four leaves, pot them off, and

place them in a pit, until the next spring; then transplant them into the open ground, and they will flower the third year; but forwarding with bottom heat, or hot-house, will make many flower the first year, if not the common garden variety. Unless you have taken the proper means necessary to hybridize, the labor of raising from seed is not worth the trouble.

Layering Roses is the most certain way of propagating the same variety; it should be done about the time Roses are beginning to bloom; in former times the fall was considered the best; experience has taught the reverse, and layering was formerly done by merely pegging down the branch; this would take a long time to form root fibres. The most approved plan is to peg down a branch, and turn up the end in as upright a position as possible, and let it remain several days to set; then make a slit by cutting with a sharp knife, commencing at the joint, to the centre; thence up half way to the next joint, the same as you would in layering the Carnation; be particular that the slit be open when you re-peg the branch down, which can easily be done with a piece of moss, or some of the soil; tie the branch firmly to a stake, and cover the slit about half an inch in the soil. Should the weather be favorable the layers will be ready to take off in the fall; but prior to that time you had better examine them, and, if not rooted, you must allow them to remain till next season.

The Rose is also propagated by suckers. If allowed to remain in one place any time you will find them abundant, though some are more prone to make them than others. These should be detached in November, and in two years they will make good flowering bushes.

Roses to be grown well, should not be allowed to remain over three or four years in the same place, which is evident by the suckers coming up some distance from the mother plant. If not removed, you will soon find the old plant sicken and die; the soil being deteriorated, the plant ceases to exist for want of nourishment.

To obtain good flowers the plants should be removed often, and every summer or fall the old wood pruned out, and mulch the roots with old manure before the winter sets in, and in the spring turn it over, mixing it with the soil, disturbing the roots as little as possible.

The Rose is also propagated by grafting the more choice varieties on the root of the more common kind, which is done in the following manner: — Take a piece of the root, about four inches long, and cut a slit about one inch long, down the center; then take the scion you wish to engraft, cutting it the length required (three eyes), the bottom part should be cut like a wedge, which must be inserted into the slit of the root; be particular in fitting the bark of each as exact as possible. It should be observed that both should be as near one size as possible, — when done it should be bound with bass firmly, so that neither can separate from its position; then take grafting wax, and cover the binding, to exclude the atmospheric air from the wound of the grafted part; when completed it may be planted into the open ground. After the parts are united, which can easily be discovered by the growth, slacken the bandage, and to prevent accident, put a small stake in the ground to tie the young wood to, and it will require no further trouble. Grafting is performed in the spring before the sap begins to circulate.

The Rose is also increased by budding. This process is generally done with new varieties, and is frequently performed on running Roses, for the sake of curiosity, enabling a person to have different colored flowers on the same bush. The best standard to bud on is the Boursalt, and the best time to bud is July and August, when the bark will part freely. It is performed the same as with fruit trees, which mode is so well understood as to render it unnecessary to describe. Shakspeare says:—

"You see, sweet maid! we marry
A gentle scion to the wildest stock;
And make conceive a bark of baser kind
By bud of nobler race; this is an art
Which does mend nature,—change it rather; but
The art itself is nature."

The Scotch Rose has not been known much above fifty years. It is hardy and very distinct, with delicate limbs and foliage, profuse in flowering, and mostly double. It was originally found on the mountains of Scotland, from whence it was taken by Messrs. DICK and BROWN, in 1793, and was single. Their attention to its culture first brought the flowers double. Seeding freely, this indispensable variety has been greatly augmented, and is now to be found in most gardens. It is easily cultivated.

The Cabbage, or Provence Rose, is one of the oldest we have in cultivation, and is a desirable as well as ornamental rose. Holland claims the parentage of this, but without foundation, as it was a favorite of the Romans, and was used in their triumphal marches. It was not known in Europe above five hundred years ago. It is possible the Dutch may have been the first to introduce it into Europe.

This variety can be traced back over two thousand years, and is a native of the East.

The Moss Rose is supposed to be a mere variety of the Provence, which Mr. Lee, of Hammersmith, endeavored to prove; it is certainly problematical. In Italy it is said to lose its mossy appearance, which some botanists suppose to be enough to prove the assertion; but this is fallacious reasoning. It only proves that the climate or soil is not congenial to its culture. There are many flowers brought to this country that lose their fragrance; for instance, the Mignionette, which in England is delightful, but degenerates in this country; that is no argument that it was originally void of fragrance. Country, soil, and situation, will influence most exotics, more or less. The first account we have of the Moss Rose was in 1724. Its true history is unknown; therefore all conjecture on the subject is idle speculation. The following little fictitious poetical explanation will amuse some, if it does not give the true history. It is a translation from a German poet:

The Angel of the flowers, one day,
Beneath a Rose-tree sleeping lay,
That spirit, to whose charge is given,
To bathe young buds in dews from heaven:
Awaking from his light repose,
The Angel whispered to the Rose;
O, fondest object of my care,
Still fairest found where all are fair,
For the sweet shade thou 'st given to me.
Ask what thou wilt, 'tis granted thee."
"Then," said the Rose, with deepened glow,
"On me another grace bestow."
The spirit paused in silent thought,
What grace was there that flower had not?

'T was but a moment; o'er the Rose
A veil of moss the spirit throws,
And robed in Nature's simplest weed,
Could there a flower that Rose exceed?

The Moss variety of Rose is splendid; the calyx and peduncles are mossy, giving the rose a rich, novel, and beautiful appearance, distinct and interesting, requisites to be found only in this class of beauties. It is more difficult to root than other Roses, and it will generally take two years to propagate from layers; it is therefore much easier propagated by budding. The common Moss is the best variety, and, like the Scotch Rose, should not be pruned much, neither is it necessary to move it often.

The Rose known as the French Hundred-leaf, was known to Pliny, as one of the greatest beauties of the Rose family; but it is destitute of fragrance. It is a distinct variety from the Provence; the flower stalk is upright and stiff, destitute of thorns, and is found on the mountains of Switzerland, and other places.

The Burgundy and Damask possess a similitude, and are frequently confounded with each other, to those that are not good judges. It is commonly called in England Monthly, but generally, in favorable soil and situations, it will flower four times in the year; on this account, the French call it "*Rose de Quarte Saison.*" This division of Roses is much improved of late, and is becoming a great favorite.

Hybrid Roses of different classes are becoming very numerous and fashionable, and by some are now considered the finest in cultivation; in ten years they will be thought nothing of.

Of the hybrid China there is a great variety, and we owe their origin to the China, Tea-scented, Noisette, Bourbon, and the French Provence, being crossed with the garden Rose, by which means we are furnished with a splendid variety of elegant flowers, both in form and color, of vigorous growth, and extremely luxuriant foliage. Although these hybrids flower but once in the season, they continue so for a long time. Many run to a great height, and are perfectly hardy; these will generally grow from cuttings taken off in June. This class of Roses requires but little pruning, unless it is cutting out the old wood in November.

The Noisette is another desirable variety; the origin of this class was raised from seed of the Musk, fertilized with the China, and the world is indebted to this country for this desirable variety. Most of this class are running Roses, bearing their beautiful flowers in clusters, from June until checked by frost in the fall. This variety will stand out with a slight protection, and is increased by cuttings and layering.

The Tea-scented China Rose is another beautiful variety, much esteemed for its delicacy of color, and the exquisite odor of its flowers. It is generally grown in pots for parlor culture; it is equally suitable for the open ground, and will survive the severity of the winter with slight protection, which should be removed in March, after the cold weather is over. By this treatment the bushes are more thrifty, and it will bloom more abundantly. If the winter be very severe, the bush may freeze, and the wood die level with the ground, which is of no con-

sequence, as the bush will put with more vigor in the spring.

The Bengal, Bourbon, and China Everblooming, or Daily, require the same treatment to develope their beauties to perfection; all will grow readily from cuttings, and the best month to propagate them is June. I refer the reader to the article on cuttings.

I think, as a general class of Roses for the garden, the Bourbon will be found decidedly the best, blooming all the summer, and varying in quality and color. Its foliage is bright and finely shaped, perfectly hardy, and of free growth. It makes the most splendid Tree Rose known. This variety will outlive that class of Roses now coming into fashion, called Remontant, or Hybrid Perpetuals.

In regard to soil for Roses, it will be found that situation and climate will make a difference in their growth: experience is the best criterion. Generally, the Rose will grow best in a rich loamy soil. To tell the amateur to take a certain portion of this soil, and a certain portion of another, and so on, only serves to distract the mind of the young beginner, mystifying their culture when there is no mystery about it. The best plan is to encourage the culture of plants; experience is the best teacher on this head, and of more service than all that could be written by the most experienced gardeners. I find that class of men will differ in their management of plants. All pot plants require a richer soil than the same kind in the open ground. This arises from the quantity of water pot plants require, as water washes the substance of the soil from the roots, which is not the case when in the open ground.

The Tree Rose has become quite fashionable, and is

within the pale of any person. It only requires the trouble of selecting a Boursalt Rose, that has a straight shoot; then bud one or more varieties into it, of any height desirable, in the beginning of August. To accomplish this object, it should be performed towards evening or on a damp day; and if you find the bark does not part freely, by want of sufficiency of juice, it should be delayed a few days longer, or the bud will perish. A little judgment is required in selecting the bud most suited for the purpose; but to enable the amateur to tell without difficulty, he should observe that when the bud at the end of the shoot is formed, it is then at maturity, and should be used without delay. Roses, properly speaking, should not be budded before August, unless it be the China Rose; then the spring will be the best. As soon after budding as you discover the bud has taken, loosen the bandage and trim off the top of the stalk to within two shoots of the bud, until the spring; and when the bud begins to put, trim off the balance of the newly formed shoot. Flowers produced from the bud will be more brilliant than those formed on the original tree. In dry weather, the stock of budded plants will be much improved the first year, if watered. In preparing your buds the old practice of removing the wood from the bud is indispensable to your success. Spring budding, with the tender Roses, is not important. After the bud is inserted, if bass matting is not handy, tape can be substituted. The time required for buds to be established is about six weeks.

The pruning of Tree Roses is practised at different periods by gardeners. Spring will be found the best time; and leaving but two eyes to each branch, will make them

more vigorous, and bloom more freely. Many experiments have been tried in budding the Rose on different shrubs, which will take; but the constitution of the varieties is so conflicting with nature, the experiments have failed to be of any benefit. Those, therefore, who wish to change the color by this means, may consider such a plan abortive. When tender Roses are budded on hardy stocks, the wood must be sufficiently protected to withstand the winter; but if the amateur has a pit or cellar, it is best to pot them off in November, place them in safety, and replant them in the spring. The particular mode of budding will be found in another part of this work; and the variety for use will depend on the fancy of the operator.

ROSE BAY.

(RHODODENDRON.)

This is a well known evergreen shrub, combining some of the most beautiful varieties of plants in cultivation. It grows from one to twenty feet high, branching, with oblong, obtuse, and thick leaves, narrower near the footstalk, and reflexed at the margin; veined, ragged, of a deep color on the surface, ferruginous beneath, and surrounding the branches upon long petioles. The flowers are various, on long peduncles, and in terminal umbels. There is a numerous family of the Rhododendrons in cultivation; those natives of this country are perfectly hardy, and are

found growing in mountainous districts, flowering from May to July.

The *Nepaul* species will grow twenty feet high, and is decidedly the best in cultivation, producing scarlet and crimson flowers, truly gorgeous in appearance, and equal to velvet in richness; and the flowers are abundantly supplied with a liquid sweet as honey. They may be increased by layering, inarching, or budding, and by seeds, as they are found to seed freely. They ought to be highly appreciated on that account, by which means many fine hybrids have been raised. To grow from seeds, the soil should be one part sandy loam and two parts leaf mould. In sowing, great care should be taken not to cover the seeds with the soil, as they are very minute; never water them except with a syringe, so as to imitate dew as much as possible, and keep them covered with a purple colored bell glass. When the seedlings are to be transplanted, add a little more loam to the composition, and the plants should be well supplied with water while growing. After your seedlings are potted off, treat them the same as the Camellia Japonica; the treatment of both being similar.

RAGGED ROBIN.

(LYCHNIS DIOCEA.)

This is a perennial flowering plant, a native of England; its name is taken from the ragged appearance of

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its beautiful double pink colored flower. It is inclined to run, as the stem will grow from twelve to eighteen inches. It is perfectly distinct from the *Cuckoo Flower* (*L. flosculi*), which is often sold for it by gardeners.—The treatment of one, however, is the same as the other; it is easily propagated by division of the root. It does not seed in this country; it should be shifted once or twice in the year into a rich loam, and is better for being protected through the winter. From May to June it is covered with blossoms of a rich pink color, and double. It is a good border flower, being perfectly hardy, and at the same time a fine plant for parlor culture.

RANUNCULUS.

(RANUNCULUS ASIATICUS.)

"Yet still shall there be joy,
When God hath poured forth beauty, and, in the voice
Of human love, shall still behold in praise
Over his glorious gifts! O, Father! Lord,
The all beneficent! I bless thy name
That thou hast mantled the green earth with flowers,
Liking our hearts to nature."

The Ranunculus is a beautiful, half hardy, tuberous-rooted perennial; a native of the Levant, generally covered from May to June with magnificent flowers of various colors. The leaves are ternate; segments toothed or cut, trified; the stem upright and branching, flowers at the extreme.

This beautiful flower was introduced into Europe as far back as 1569, and has always been cultivated as a florist's flower. Its appearance and habit being similar to the Butter Cup, found near marshy places; it has passed under the name of the "Persian King Cup." The form of the flower resembling the Rose, the petals being shorter and more compact; their colors ranging from white to black; some edged, like the Picotee, and others striped like the Carnation; others selfs of a richness and delicacy unsurpassed.

Possessing such a diversity of colors, the Ranunculus has a most beautiful and imposing aspect. The flower stem is generally about fifteen inches high, with a flower at the top, and laterals; and frequently one plant will be embellished with from ten to sixteen blossoms;

> "Emblems of modest grace,
> Of unaffected dignity and ease,
> Of pure and elegant simplicity."

The root is formed of tubers, similar to the Dahlia, but small, only about one inch in length. Some gardeners profess to have as many as eighteen hundred varieties with names. It is generally conceded that JOSEPH TYSO and SON, of Wallingford, Berkshire (authors of a treatise on crossing this flower artificially), have the best collection in England. Generally speaking, this flower has not succeeded in this country, which, I think, must be attributed to want of attention, in not planting them in suitable soil, and in a situation congenial to them in this climate. Mr. WALKER, of Dorchester, near Boston, an enterprising florist, I am informed, cultivates them to perfection. A collection can

be purchased in England for about three dollars per hundred; a superior assortment would cost fifty; this would comprise some of the most select. Those generally brought here and sold with Harlem bulbs, are worthless; the tubers appear fair to the eye, which is all that can be said of them.

The Ranunculus generally flowers a short time after the Tulip, if planted in February, as soon as the frost is out of the ground and can be worked. There are single and semi-double flowers, but the double are considered the florist's flower; others are of no value. The florist's flower only wants to be seen to be appreciated.

Probably one of the most exciting pleasures would be to raise those plants from seed procured from England. They should be sown in February, in pans or boxes, in a sandy loam, collected from the commons after the turf is taken off, with a portion of old manure, mixed at least six months before being used. If planted in old earth with new manure they will rot. In the second season your plants will flower, and in most cases will be single; this circumstance should not discourage you; still persevere, and the next season you will find them more double, and some of the best will send up a pericarp, and in most instances without anthers. This will be a good time to impregnate; take a camel's hair pencil, and collect the pollen from the anthers of semi-double flowers, and apply it to the pericarp of those possessing good proportions, and nearly double; by fertilizing the seed vessel, you will be enabled to get superior seeds, which will give you some advantage over those you can purchase.

In planting tubers, great care is necessary to place them

erect; for if planted sidewise it will undoubtedly throw the flower stem in the same direction. The Dahlia, if planted upside down, will naturally find its way up, but not so with the Ranunculus. To this circumstance may be attributed so many failures by persons not acquainted with this fact. The proper time to divide the tubers is when you take them up, after the flower-stem has died down, as the tubers then are not so brittle as when dry. When the tubers appear dry, pack them in sand, to remain until the time of planting again.

In England, where the summers are frequented with gentle showers, these flowers can be produced at any time through the year, by planting accordingly; which, no doubt, with proper attention, could be effected in this country. The soil best suited to the culture of the Ranunculus would be a fresh maiden soil with a small portion of cow manure four years old, well incorporated with it. The tubers must be planted about two inches deep, and in dry weather should be watered between the roots; and when in flower, they should be screened from the sun, to preserve the purity of their colors.

SCHIZANTHUS.

(RETUSUS.)

This beautiful annual is a native of the mountains of South America, and was introduced into Europe in 1831.

It is of easy culture, and is fast gaining its way into public favor. The footstalk of the plant is erect; tubes of the corolla longer than the calyx; lips variously cut, middle one, narrow shaped; the upper, square and abrupt; the seed simple, shell-like, possessing a wrinkled integument; albumen fleshy. There are a number of varieties of the Schizanthus; their flowers are rather fanciful and novel in appearance.

All of this family grow readily in a rich loam; the treatment of one suits the whole; and the plant is found to do best if the seed be sown in August. When the seedlings have formed two leaves they should be potted off into thumb pots, and when the pots are filled with roots, they should be shifted into one of three inches. Great care must be observed against injuring the root fibres, as they are tender, and cause the leaves to droop. When you discover your plants in this condition, you must not give them water, even if their appearance should lead you to suppose that to be necessary. It should be kept from the frost, and in May repotted into one of five inches, if intended to flower in the house; or it may be placed in the open ground. To secure a second crop of this delightful flower, sow more seed in the spring. Such is the nature of its disposition to flower, that, if well grown, it will be studded with from five to eight hundred flowers at a time, and it will continue to flower about five months; this makes it a desirable plant for the parlor or flower garden. The Schizanthus does not like a moist situation, neither should it be planted where the wind will affect it, or it will be destroyed. The soil should be a sandy loam.

STAR OF BETHLEHEM.

(ORNITHOGALUM.)

Of this variety of bulbous rooted plants there are over one hundred, and nearly the whole tribe is worthless. The one best known throws up a scape about four inches high, having a number of white star-like flowers, which appear in the spring. The leaves are similar to the Crocus, with a white stripe up the centre. It is generally planted along the edge of the borders of the beds, where it shows to the best advantage. There are one or two suitable for the green-house, but we seldom see them there, their places being filled with more desirable plants.

There are *Frenchmen* periodically traveling this country, selling plants, and shrubs, and bulbous roots; the bulbs generally are healthy looking, and well calculated to deceive. The larger kinds are sold for the *Josephine* (an Amaryllis Lily), and it generally turns out to be an inferior kind of the *Ornithogalum;* those of a smaller kind are sold for the Belladonna. It would be well for persons to be on their guard and purchase no plants or bulbs except of regular established gardeners or seedsmen, who pride themselves on a reputation; and in case of any mistake, you have always some resource for a correction. This is not the case with the warranty of a stranger, who generally sends another as honest as himself the following year, with another set of flaming pictures of nondescript plants, with colors contrary to the nature of flowers, in plants which they pretend to represent.

SCARLET VALERIAN.

(VALERIANA RUBRA.)

This is a fine herbaceous perennial, growing about twenty inches high, smooth and glaucous, branching in leafy stems. The leaves are opposite, some entire, others toothed, sessile. The flowers are numerous, growing in unilateral spikes of dark pink color, scentless, flowering from June until the early frost sets in. This pretty flower is found growing in great perfection on old walls in England, but will not stand the winter of this country; it should therefore be potted in the fall, and brought into the house.

This plant was originally found growing on rocks on the Alpine mountains, in great abundance. It is quite rustic in appearance, and requires no recommendation from the florist. Its intrinsic worth, either as a border flower or for its medicinal properties, will speak its own praise. It does well in a loamy soil, and is quite accommodating in its nature as to situation, &c. It is propagated by seed sown in the spring, and by cuttings taken also in the spring, or by dividing the root, so that each piece contain root fibres. There are several varieties of the Valerian; the Scarlet is the most desirable for the garden, and the others for their medicinal properties.

SNOW DROP.

(GALANTHUS NIVALIS.)

"Lone flower, hemmed in with snows, and white as they,
But hardier far, once more I see thee bend
Thy forehead, as if fearful to offend,
Like an unbidden guest."

This bulbous rooted flowering plant is indigenous to England, where it is a great favorite. It is one of the earliest flowers to open in the spring, reminding us of the approach of Flora and her tribe of beauties, even when the snow is on the ground. It is of easy culture, and should be planted in the fall, at the same time as other bulbs. It has a delicate stem, rising a few inches, bearing a white flower a little tinged with green at the extreme end, which hangs pendent; the leaves are smooth, of a light green. To make it appear to the best advantage it should be planted with the Purple Crocus, by making a ring five inches in diameter, and planting the Crocus on the outside, and the Snow Drop in the centre. It does well planted in a pot and kept in the house. This bulb should be kept like the Crocus through the summer in sand, or they will dry up. The damp atmosphere of England is more congenial for these bulbs than this country, as I have generally found them to disappear about the second or third year; from which it must be inferred this climate does not suit them. This lessens their value as a bulb for general culture.

SWEET WILLIAM.

(DIANTHUS BARBATUS.)

"Sweet William small has form and aspect bright,
Like that sweet flower that yields great Jove delight."

This is a delightful ornamental evergreen, flowering profusely from May to July, and bearing all the colors so susceptible of imparting delight, both single and double. The flowers are aggregate, facicled; scales ovate, subulate, with a long stem, on the top of which is formed a corymb of gorgeous flowers, well adapted for bouquets made in the French style. The leaves are lanceolate, forming altogether one of the best border flowers in cultivation.

This perennial is a native of Germany, and has been many hundred years in cultivation. It is propagated by seeds, cuttings, and by dividing the roots in the fall. It thrives best in good rich soil, and is perfectly hardy. The double variety is best for being protected through the winter. To propagate by seeds it will be necessary to sow them in April. It is often the case that this plant will drop its seeds, which come up and flower the following spring. Should the winter prove severe the young plants will probably perish for want of strength; therefore, by early sowing, the plants become strong, and the cold will have no effect on them. Sow in April, and transplant, when your seedlings are about two inches high, to where they are intended to flower. When you discover a flower of superior merit, you can either propagate by cuttings or

by dividing the root in September. Plant them out to gain strength before the winter sets in. You will find in a bed of seedlings some double; these you should preserve, by dividing the roots, and giving them protection through the winter.

This flower will easily cross with the China Pink, and the plants raised will partake of the qualities of both, making a beautiful flowering plant for the border for two years. Although it is easily propagated, and has become common, it still retains a place in all gardens, however small, such is the estimation this flower is held. Differen gardens appear to have them of different colors. Such novelty makes them desirable, and they are not likely to be supplanted by any other

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ST. JOHN'S WORT.

(HYPERICUM KALMIANUM.)

This ornamental shrub is not cultivated so much as it should be, considering its showy appearance when in flower, which is during the months of June and July. It is then literally covered with bright yellow flowers, of an imposing aspect. It is evergreen, and will grow readily from cuttings in a sandy loam; it requires plenty of water during the flowering season, and is easily kept through the winter in a pit or cellar, watered sparingly.

SUNFLOWER.

(HELIANTHUS MULTIFLORUS.)

This is a deciduous herbaceous plant, a native of this country, as well as of South America; perennial in duration, and quite ornamental in appearance, bearing yellow double flowers from July to October, growing about five feet high. The leaves are three nerved, scabious, the lower cordate, upper ovate, bearing numerous flowers at the ends of the shoots. In its pristine state the flowers are single; cultivation has made them double. It should be divided at the root, either in the spring or fall; the latter is preferable, and should be planted into a different place in the garden, for if allowed to remain in one place, and not divided, it will return to its primitive state, which would detract that beauty so desirable.

The Helianthus is certainly a showy flower, not much unlike or inferior to the yellow Dahlia, to which, at a distance, it bears some resemblance. The sun has some influence on the flowers, as they will be found to turn with it; the flower at twelve o'clock mid-day will face the south.

There is an annual variety, both single and double, with noble flowers, very large, and more suitable for the culture of the oil, with which the seeds abound. The seeds are useful for various purposes, and if raised on a large scale could be used to advantage even for the use of cattle or poultry.

The *H. multiflorus* is decidedly the best variety for the flower garden, and will grow in any soil. When raised to

perfection it is seldom found to seed, which is of no consequence, as it increases fast at the roots.

SNAP DRAGON.

(ANTIRRHINUM.)

This plant is an ornamental perennial evergreen; flowers of various colors, some are magnificent. The leaves are lanceolate; the flowers spiked; seed pods in the shape of a calf's snout, from which circumstance it often goes by that name. The segment of the calyx obtuse. It is a native of England; and flowers from June to August, generally the first season if the seed be sown early, and it sports much in colors; when you discover a seedling of extraordinary beauty take cuttings in September, and protect them through the winter; they will make good flowering plants for the border, in the spring; by this plan you can secure one of the best border flowers we have. Although this plant is considered hardy, it is very apt to be cut off in severe weather. It will flower better and earlier if protected, and will accommodate itself to almost any kind of soil.

SCARLET LYCHNIS.

(LYCHNIS CHALCEDONICA.)

This is a splendid hardy perennial, growing about two feet high, with a bunch of beautiful flowers, corymb form, of a beautiful dazzling scarlet in June and July; the leaves are lanceolate, and cordate. It is easily raised from seed, is perfectly hardy, and can also be easily increased by dividing the roots. It is a native of Russia, and was imported into England several hundred years ago. It is found to grow in any garden soil. The double is very desirable, the flowers on the top form a ball, which gives it quite a unique appearance. It is increased by dividing the root in the fall, or by cuttings of the flower stem, taken the same as the Scarlet Lobelia. It should never be left out in the winter, as it does not flower so well. There are several varieties of the Lychnis; most are confined to the greenhouse, being rather tender.

SWEET PEA.

(LATHYRUS ODORATA.)

There is a great variety of the Sweet Pea; some are extremely pretty annuals, natives of different countries, flowering in June and July. It will flower stronger and the

colors be more brilliant, if the seed be sown in the fall, and the seedlings kept through the winter in thumb pots; or they may be sown in the open ground, and some litter thrown over them as a protection. Some of the perennial varieties are well calculated for the arbor, growing from eight to ten feet high, bearing beautiful Rose colored flowers from July to September. They need no protection through the winter, as they die down to the ground in the fall, and put forth in the spring. The perennial varieties are cultivated to some extent in Europe, as we generally find them with the Honeysuckle, entering the lattice work of the cottages, giving a most lively appearance to those dwellings throughout the summer. The flowers impart beauty, taste, and usefulness at the same time.

SIDESADDLE, OR PITCHER PLANT

(SARACENIA PURPUREA.)

Of this singular tribe of plants there appear to be several varieties indigenous to this country, found in swamps in the north-western part of Indiana. The leaf is composed of a hollow tube, which holds about a wine-glass of water. A leafy appendage is attached to the extremity of such tube, which is said to cover the orifice in rainy weather, to exclude it; this is somewhat problematical, as I could never see any difference in their appearance in rainy weather in the appendage, or cover, so called. The tube contains

water it is true, and flies are induced to enter their living sepulchre (if it may be so termed). This singularity of the leaf, whatever may be the design of nature, appears strange; but it is generally supposed the pitcher shape leaf is formed to supply the plant with water during the dry time in the autumn. The inner parts of those hollow cylinder shaped leaves are lined with hair, which points downwards, and there is but little doubt that flies which enter (generally the Blue Bottle race), when once in, are prevented from crawling out by the formation of the inner side of the tubes; and in all probability the water possesses some deleterious effects; thus destroying the insects when once within the convex of the leaf.

The singularities of this plant exhibit one of the phenomenas in nature so remarkable and interesting in floriculture. In its cultivation it must be treated as a swamp plant. The soil should be taken from a swamp and kept, in its growing season, in a pan of water, and the plant itself surrounded with moss. It may be increased by seed, or by division of the root. If by seeds, they should be sown in the spring and be kept moist. When the plants are of sufficient size transplant into five inch pots, and treat them the same as full grown plants; if by division of the roots it should be performed in the spring or fall. It will not thrive in the sun; the shade is indispensable to flower them to perfection.

TEN WEEK STOCK.

(MATHIOLA ANNA.)

"Oh faint, indeed, are outward hues,
Compared with thy rich mental light;
Each day thy thoughts their rays diffuse,
Yet grow each added day more bright."

This is a beautiful annual variety of flowering plants, bearing flowers of different colors nearly the whole season. The stem is herbaceous, erect, and branching; the leaves lanceolate, blunt, and hoary; the seed pods long, without glands. Plants generally flower in *ten weeks* after the seeds are sown under favorable circumstances, and by sowing them at different periods they may be brought to flower at almost any season, in the green-house. It is sometimes called the "*Gilliflower*," and of this genera there are a number of varieties; the best are the Brompton, Queen, Nosegay, and many others of late introduction, some with Wall flower leaf; the whole family will grow well in a sandy loam.

The Stock is highly esteemed for its fragrance, easy culture, and showy appearance in the flower garden, or in pots, with the exception of the annual variety; the others will require protection through the winter, being biennial in duration.

It is the opinion of some botanists that the seed vessel which produces the double variety is diseased; this may arise from local causes; consequently the flowers are deprived of the fructification necessary to propagate the species. By examining the flowers frequently a single anther

will be found, which is the only part possessing fecundating properties, which, like disease, generally affect those near. The infectious parts operate on the single flowers within their vicinity, contaminating the others and producing diseased flowers, or, in other words, double flowers. This may be true logic, and not understanding botany sufficiently, I cannot contradict its doctrine. If seeds that produce double flowers be diseased, it is surprising that so many plants of a double nature are so vigorous in growth. We know that people of a diseased nature have generally a weak instead of a robust constitution, and that their progeny are generally the same, and will soon cease to exist; thus we often see a whole family cut off by consumption. I should suppose, by analogy, that plants were subject to the same fatality.

I have noticed gardeners, who were in the habit of raising Stocks, tie the double and single flowering stems together; this is termed by the florists, *marrying them*, or in other words, I suppose, to convey the disease to the single, in case the Bee should not perform the operation so desirable to the florist to obtain double flowers. It is also asserted that the Bee will not go from flower to flower of a different family. How that insect should possess so discriminating a knowledge is strange. The works of "nature's God" appear wonderful, far beyond the understanding of man. This knowledge cannot be imparted to the Bee to prevent plants of a different genera from being crossed; for we know that flowers within the proximation of each other will hybridize without the Bee. Plants of a different genera have been crossed by the skilful hand of the florist, but with more difficulty than others; and unless

the different plants ripen seeds in this country I admit its futility, and when such plants are crossed, they are of short duration, because, being opposite to the laws of nature, or, as botanists may term it, being of diseased constitution, it brings on a natural decay, and thus ceases to exist. There is much to learn on this subject; and it is to be regretted that every florist is not a botanist, as many errors in regard to plants could be easily corrected. It is evident that the seed pod of the Stock producing the double flowers is diseased, as may be discovered in their malformation, by being a little drawn out of shape; but whether the seed be also diseased, is a question of mere speculation.

If the seed of the Balsams are improved by keeping several years, would not the Stock also improve by the same treatment? Many statements made by botanists years ago are now considered nugatory. The understanding is enlarged by education; and, once enlightened, it is the nature of mankind to be delving into the merits, causes, and effects of things. So it is with the florist in his researches, as well as the botanist. Cultivation has done much in the improvement of flowers—the monstrosity of the vegetable kingdom appears strange in the anomaly of nature, but double flowers are so apparent as to create no doubt; but the mystery of producing, or rather the cause, is not so fully explained as may appear at first sight; still the age of seed may in some degree have a tendency to weaken the germinating properties of the seeds, and cause them to produce stamens instead of petals. In this way the seed may be diseased, and yet produce strong plants.

TUBEROSE.

(POLYANTHUS TUBEROSA.)

This well known bulbous rooted plant is a native of the East Indies. It has been in cultivation ever since 1629, and is generally admired for its grateful fragrance. The climate of this country is well adapted for its culture, while that of Europe, being too cool and damp, does not do well the second season, even if cultivated in the green-house, which makes England dependent on this country and Italy for its yearly supply. The bulbs increase fast, enabling the florist to raise great quantities; and it has become a great article of exportation every season. The flower has nothing very prepossessing in its appearance, which is a double white; but the fragrance emitted is certainly delightful, and desirable for the garden or parlor. Its culture is easy, either in the pot or the flower garden. If cultivated in a pot one of five inches is the best size; plant them two inches deep; the soil should be a sandy loam, and if intended to flower early can be forwarded with bottom heat in March. As the flower stem advances it should be supported with a stick. When planted into the open ground the last of April is the best time, as the plant is tender and liable to be destroyed by the spring frost. The leaves of this plant are linear, slightly channelled, about twelve to fifteen inches long, of a pea-green color; the stem is from three to four feet high; flowers double, and spiked, not more than two or three are expanded at a time; generally odoriferous; rather dingy in color.

In plantmg the bulbs it will be necessary to divest them of all offsets, otherwise the plant will not flower, for the offsets derive too much nourishment from the main bulb, and prove injurious. The offsets should be planted in a bed by themselves, and in the third season they will flower. When the frost destroys the foliage in the fall take them up, and place them in a room to dry, previous to packing them away for the winter; or the bulbs can be packed in dry sand, and then are not so likely to be injured by frost.

This plant is well calculated for the parlor, as it will bear much confinement in a room, and is not injured if kept from the window while flowering, and when done it may be turned out of the pot, without disturbing the ball, into the open ground, which will save much trouble. When this bulb is planted in a moderate sized garden, after the rays of the sun have declined, it will be filled with fragrance, refreshing the mind, in the cool of the evening, after the avocation of the day is spent.

TEA.

(THEA CHINENSIS.)

This is an evergreen shrub, a native of China and Japan, cultivated to a greater extent in China than the latter place. It being so near related to the Camellia Japonica, the treatment of one is also applicable to the other. In the green-house this plant seldom exceeds six

feet in height. The branches are alternate and numerous, furnished with elliptical, oblong, lanceolated pointed leaves, and serrated, with the exception of the base; smooth on both sides, shining, marked with a rib, and veined, supported alternately on short foot stalks, two or three inches long, and about one wide. The flowers are sometimes solitary, and in clusters of three occasionally, at the axiles of the leaves, bearing a flower similar to the Myrtle, consisting of a short green calyx with five lobes, the corolla four or five, large snow white petals; stamens numerous, with yellow anthers connected at the base, and a pistil with a three parted style. Fruit and capsule three celled. How many varieties of the Tea plant exist is uncertain.

The article imported as a beverage is picked from the same plant at different seasons, and the different modes of curing the leaves make their difference in the importance and worth, rather than in being the proceeds of different varieties of plants. As an evergreen plant, the Tea is certainly ornamental, and, like the Camellia, will bear considerable frost. There is no doubt if this plant sported in colors, like its prototype, the Camellia, it would be equally as much propagated; still it is deserving the fostering care of lovers of ornamental shrubs. It is easily propagated by seed sown in the spring in a rich sandy loam. When the seeds are up and two or more leaves appear, they should be potted off carefully into the smallest size pots, and when re-established, should be treated the same as if full grown; the third season the seedlings will, under proper treatment, flower and bear fruit.

TIGER FLOWER.

(TIGRIDIA CONCHIFLORA.)

"This, nor gems, nor stores of gold,
Nor purple state, nor culture, can bestow;
But God alone when first his active hand
Imprints the secret bias of the soul,
He, mighty Parent! wise and just in all,
Free as the vital breeze or light of heaven,
Reveals the charms of nature."

This plant is a native of Mexico, belonging to *Monadelphia Triandria* of the natural order *Irideæ*, and is much esteemed for the beauty displayed in its singular form and color, which is a splendid yellow, cup shape, the centre tinged and spotted with bright crimson, so diversified as to give a unique appearance; it is composed of six petals; the cup itself is about two inches across; the outer petals are reflexed, and would measure about four inches across; the stem is over two feet in height, and, like most Mexican plants, it is rather tender; in a dormant state it must be packed in sand (dry, of course), and placed where the frost will not injure the bulbs.

To flower this plant well will require a rich sandy loam; it will not succeed in a clay soil which is too stiff, unless made rich with manure and a portion of sand to render it of such consistence as to admit the root fibres to pass through with facility. Many persons are curious in raising bulbous roots from seed, for the sake of new varieties; but with regard to this genera, I should say it is not

worth while, as it would take several years to bring them to bloom.

Tigridia conchiflora is a species of the Iris, but not like them in many particulars, for the Iris will sport in colors, this plant will not; consequently as no new varieties could be obtained, it would be futile to raise from seed more particularly as the bulbs increase fast at the root, and the offsets in most cases will flower the first or second year. As this plant will not cross with the Iris, there appears to be a difference in their nature and habit. There are two other species of Tigridia, but *T. conchiflora* is decidedly the greatest favorite with florists. To have early flowers it will be necessary to plant the bulbs in pots the beginning of March, and place them in a gentle heat, or in a frame under glass, to guard against frost, and be careful in watering them, or you will cause them to rot.— Towards the last of April you can plant them into the open ground about two inches deep.

These plants make a very pretty appearance when in a bed of several dozen. The flowers last but one day, and nature in a measure has amply compensated for so short a life, as the plants continue to throw up flowers; and when in a bed, from the circumstance of their flowering for six or eight weeks, the excitement created for so long a time is truly pleasing, by their gaudy appearance, making them very desirable even in a small garden. From the easy culture of this plant any person with the least judgment can manage them. I presume the bulbs could be obtained of any gardener near principal cities, or at the seed stores, at a fair price. On the appearance of cold weather, if the frost be intense, which sometimes is the case, throw

matts over the bed, or you may lose them; the next day you had better take them up, dry and pack them in sand; be careful that your bulbs be sufficiently dry, or they will mould and rot.

TULIP.

(TULIP GESERIANA.)

"Then comes the Tulip race, whose beauty plays
Her idle freaks, from family diffused
To family, as flies the father dust,
The varied colors run; and while they break
On the charmed eye, the exulting florist marks
With secret pride, the wonders of his hand."

This is one of those ornamental bulbous rooted plants that has created so much excitement in the floral world, flowering in April and May. Stem generally one flowered and smooth; corolla at the extreme; petals acute, bearded at the end; leaves lanceolate. This beautiful and graceful flowering bulb is a native of the Levant, and is also common along the banks of the Bosphorus and different parts of Syria. It was first taken from its native country over two hundred and sixty years ago, and has created much excitement among florists up to the present epoch. When first discovered their colors were crimson and yellow; the florist, by care and good management, has made them produce all the gorgeous colors imaginable, and so

harmoniously blended as to impart gaiety and splendor not to be found in any other flower in cultivation. Such is the infatuation produced by the Tulip, that when a person once begins to be acquainted with them, they absorb the whole mind, as if by magic, from the pursuit of other flowers; indeed the mania was so great for them, in 1637, that a collection of 120 bulbs sold at auction for over *forty-two thousand dollars;* one variety with offsets out of that list sold for near *twenty-five hundred dollars.* The following is extracted from the Encyclopædia Americana, which gives an account, almost incredible, of their estimation in former times: — "In 1636 and 1637, a real Tulip mania prevailed in Holland. Bulbs, which the seller did not possess, were sold at enormous prices on condition that they should be delivered to the purchaser at a given time; 13,000 florins were paid for a single *Semper-Augustus;* for three of them together, 30,000 florins; for 148 grains weight, 4500 florins; for 296 grains of *Admiral Liefkenshock*, more than 4000 florins; for *Admiral Enkhuigen*, more than 5000 florins; and for a *Viceroy*, on one occasion, was paid 4 tons of wheat, 8 tons of rye, 4 fat oxen, 8 pigs, 12 sheep, 2 hhds. of wine, 4 barrels of beer, 2 barrels of butter, 1000 pounds of cheese, a bundle of clothes, and a silver pitcher. At an auction, in Alimaer, some bulbs were sold for more than 90,000 florins. An individual, in Amsterdam, gained more than 68,000 florins by the trade in four months. In one city in Holland, it is said, more than 10,000,000 Tulip bulbs were sold, but on account of the purchasers refusing to pay the sums agreed upon, the States General, April 27th, 1637, ordered that such sums should be exacted like other debts in the common way;

the extravagant prices fell at once, and a *Semper-Augustus* could be had for 50 florins; yet the profits of raising rare bulbs were considerable; and, even at present, we find 25 to 150 florins the price of a single rare Tulip in the catalogues of the Harlem florists. Until the time of the French Revolution, the florists of Harlem obtained their bulbs principally from Lisle, and other towns in Flanders, where the clergy were engaged in raising them."

The mania was not confined to Holland altogether, for the English found the business so profitable as not to permit the Dutch to engross the whole; the English florists, by crossing and re-crossing their flowers, were enabled to eclipse their neighbors with their beauty and magnificence, thus causing a decline in price in new varieties.

The Tulip is still dear, that is, choice varieties; a moderate variety could not be purchased for less than *three hundred dollars*, when twenty years back the same collection would cost four times that amount. This is not to be wondered at, when we take into view the time and uncertainty of raising good flowers. Those cultivated in this country, generally, are no criterion to judge of the merit of the fine kinds; those brought from Holland being nothing but the *rubbish* of that market, the good kinds being prized too much in Europe to find a ready sale here. In 1629 there does not appear to have been over 140 with names; in 1792 the number had increased to 665; and in 1820 I saw a catalogue, published by one Mason, containing 900. There is one called *Fanny Kemble*, raised from seed since that publication, that has been sold at an administrator's sale for about $500; there being but one offset propagated at that time, it will be many years before that variety will

be down to five dollars; consequently it will not soon find its way into this country.

The Dutch were the first to *classify* their bulbs, which was done in the following order: Primo Bouquet, white and brown stripes; Bouquet Bagnettes, not so tall as the former, but the cups are as well formed, with white ground and brown stripes; Incomparable Verports, the cups cherry and rose, on a white ground; Byblœmens, nearly white ground, with stripes of various colors; Bizarres, the ground yellow, with irregular stripes of different colors. The English florists class theirs in four varieties, something after the Dutch manner. All the classifications are arbitrary and perplexing to the amateur, and it would be superfluous to insert them. — There is another circumstance attached to these flowers, still more perplexing, and that is, the *taste* required to judge of what is termed a good Tulip, *being artificial*, requiring time and familiarity with them to acquire what is termed a good judgment to speak of their merit or demerit. When this circumstance is taken into view, we need not wonder that a stranger is so much attracted at first sight with the common red and yellow striped varieties.

The Tulip is raised from seed, and increased by offsets; by seed new varieties are obtained, but the process is slow and uncertain. To raise from seed, will take seven years to bring them to flower, and probably as many more to break their colors, and then you may not produce one as good as that you saved the seed from. To propagate by offsets is the only way of increasing the same kind; they will multiply fast. Beds for Tulips should command an

airy situation; the soil a sandy loam, four feet wide, and in length according to the number of bulbs. In setting out Tulips dibble them in five inches deep, planting seven bulbs across the bed; the distance the other way should be nine inches apart, that is from row to row. In Europe much pains is taken in preparing the beds, and placing sand under and around the bulbs; there is no necessity for anything of the kind in this country, as the soil generally contains sand enough in it. Tulips should be planted from October to December; as a general rule, it will be found that the middle of November is preferable; for after the latter time, the weather is uncertain; about Christmas place a layer of old manure on the bed about half an inch thick. This will protect them from heavy rain and frost; but it must not be removed before the beginning of March, and not then unless the weather is mild. In the spring keep your beds free of weeds, and if you find the ground binding, loosen it, and your flowers will be benefited by the operation. During the blooming season if protected by an awning from the sun and rain, the flowers will last much longer, and their colors be more brilliant. The English florists generally plant what is termed a reserve bed, the flowers of which are generally for bouquets, and not held in great estimation, for the florist will never cut a first rate Tulip, as the bulbs are then apt to canker the next season and die. When Tulips are cut for exhibition it is seldom the flower is cut more than one inch from the cup, as then their liability to canker is not so great.

The Tulip does not require so rich a soil as the Hyacinth, as their colors will run, and may take a long time to restore them. Six weeks after blooming the bulbs will

be in a fit state to take up, which must be done on a clear day, and the ground dry if possible. Place them in a room to dry, where there is a free circulation of air, for three or four weeks, then place each variety in a bag and mark it, and place the bags in a box or drawer until the time of planting. It is advisable to take bulbs up every season, and separate the offsets, which should be planted by themselves, as many will not flower the first season; so that offsets may remain in the ground two years without removing. There are some double varieties of Tulips, well calculated for flowering in pots, and these should be placed in pots in September, if wanted to flower early, and the pots sunk in the ground; in December lift them, wash the pots clean, and place them near the glass, the same as Hyacinths. Neither the Double or Sweet Scented are considered choice flowers, though there is novelty in their appearance.

TASSEL FLOWER.

(CACALIA COCCINEA.)

This is a pretty and graceful annual, of a bright scarlet tassel-like flower, growing about eighteen inches high. It flowers from June to August, and is a native of New Holland. It will grow in any common garden soil. The seeds should be sown early in the spring, and be trans-

planted into the borders in May, where its delicacy will do justice to that department.

VELVET COCKSCOMB.

(CELOSIA CRISTATA.)

This is one of our greatest ornamental border plants, and is half hardy, flowering from June to September. If wanted to flower early the seed should be sown in a hot-bed, and be transplanted after the danger of frost is over. It is a native of Asia, and to be grown well must have a rich soil. The flowers, if cut off before the frost touches them, will retain their beauty nearly the whole winter. There is a great variety of the Cockscomb, and of colors; the whole family is ornamental.

VARIEGATED EUPHORBIA.

(EUPHORBIA VARIEGATA.)

An annual, very showy in a large garden, where it is cultivated for the magnificent appearance of the leaf, which is a beautiful green with a silver stripe or edge. It is a native of the Rocky Mountains, and when placed in a

bouquet appears to great advantage. Although showy it ought to be excluded from all gardens where children have free access, for such is the deleterious effects of the leaf, if allowed to come in contact with the lips, it will cause the part to blister; the irritation may lead to other, and probably worse, consequences. There is a variety of Euphorbia mixed with some Cactuses, but easily distinguished, and the whole tribe is worthless.

VERBENA.

(MELINDRE.)

"Some clothe the soil that feeds them, far diffused,
And lonely, creeping, modest, and yet fair."

This is decidedly one of the best exotics in cultivation. It was first imported as far back as 1640, but does not appear to have created any sensation among florists until within the last thirty years, when many beautiful species were introduced into Europe. The flowers are formed aggregate; the leaves jagged; stem branching. The Verbena will flower from March until November.

It is a native of Buenos Ayres, and is there called *Melindre*, but Melindre officinalis is a native of England, a plant possessing no merit. Those of late introduction are new, and are becoming plentiful; possessing such remarkable beauty, they will supplant many flowers now considered indispensable. From the nature of the plant

there appears no difficulty in its cultivation, like the Petunia; and it is equally or nearly as ornamental and desirable, in the parlor, as in any well regulated garden; indeed, the latter is not complete without both, and both are suitable for rock work. It is increased by seed, or by cuttings taken any time between March and September.

To raise them by seed they should be sown in a light rich soil, in March, and be kept moderately moist. When large enough, transplant into the open ground, which will be some time in May. To increase by layers the best way will be to sink a pot, filled with rich soil, near the plant, and peg the joint in the centre, and, when rooted, detach it from the parent; nothing more is required than to treat it like other plants. The Verbena likes a good drainage, and but little water in the winter. In the spring, as the plants begin to grow, water them moderately. You will find, in May, where your plants grew in the open ground, that if you had different varieties planted, many new varieties will come up, as the Verbena will easily cross. A bed of Verbena, when well arranged in regard to color, makes a delightful appearance beyond conception.

WINGED AMMOBIUM.

(AMMOBIUM ALATUM.)

There is something pleasing in this annual, being rather showy and singular in its appearance, flowering from June

to August, and throwing up a stem two feet high and branching; the flowers solitary at the extreme. They bear some resemblance to the Eternal Flower, yellow, with a single whorl of white petals round the edge, reflexed. The stem is concave, the corners or edge thin, hence arose the name, Winged. The leaf is a dingy yellow or light green, clustered near the ground. It is half hardy, and will grow in any common garden soil. It generally sows its own seed, which comes up early in the spring, and can be transplanted to where it is wanted to flower.

WHITE LILY.

(LILIUM CANDIDUM.)

"Yet in that bulb, those sapless scales,
The lily wraps her silent vest,
Till vernal suns and vernal gales,
Shall kiss once more her fragrant breast."

This is a bulbous rooted perennial, a native of Syria and Asia Minor, and was supposed to have been brought to Europe by the Crusaders, sometime during the "Holy War." It is one of the oldest exotics in cultivation, possessing extraordinary beauty, embellishing the flower garden with white flowers of the sweetest odor of all the floral tribe. The leaves are lanceolate, scattered, and narrowed at the base; the corolla campanulate and smooth inside; the stem about five feet high, bearing from six to

twelve gorgeous flowers of virgin white, in May and June. The bulb is composed of imbricated scales without odor, and of a disagreeable flavor. It contains a small portion of an acrid principle, and much mucilage, which is greatly diminished by boiling. It has been used for the dropsy. The odor of the flowers is imparted to oil or bear's grease, and is used by perfumers; mixed with lard it is used as a liniment, as a soothing application for external inflammation. It appears to have sprung up in the heathen mythology, and was called Juno's Rose. It was known and cultivated in the Jewish nation.

"So mixed the Rose and Lily's white,
That nature seemed uncertain quite,
To deck her cheek, what flower she chose,
The Lily white, or blushing Rose,

The White Lily will grow in any soil, but it prefers one rather light than binding. It is increased by offsets. The bulbs should be taken up in July, after the leaves and stem die down, and should not be kept out of the ground over six weeks. Separate the offsets, and then plant them according to fancy, round the garden; if in rows, about eighteen inches apart. This bulbous root is so hardy as to require no protection in the winter.

WALLFLOWER.

(CHEIRANTHUS CHEIRI.)

"It sheds a halo of repose
Around the wrecks of Time;
To beauty give the flaunting Rose,
The Wallflower is sublime."

This is truly a delightful ornamental evergreen under shrub, growing about two feet high. It is found growing in perfection on old walls and castles in England, bearing yellow flowers from April to July. It is delightfully fragrant, beyond all the perfumes of Persia. The leaves are lanceolate, entire, hairy, two parted; pods linear; stigmas with incurved lobes. The Wallflower delights in old walls, where it grows to better perfection than the florist can make it by cultivation. Whoever has visited England, in the spring, must be familiar with their attractions, and found them irresistible, when passing the ruins of an old castle, or walls,

"For the obedient zephyrs bear
Her light seeds round 'yond turret's mould,
And, undisputed by the tempest there,
They rise in vegetable gold."

yes! after withstanding the cold blasts of winter, this charming flower appears, making the spring more delightful than we could imagine it before. There are several varieties of the Wallflower, and all attractive; but the best in cultivation is a semi-double, from Germany, so fragrant as to ravish the senses with its fragrance; it has a more

powerful aroma than the double, and also seeds freely, enabling us to increase by that means as well as by slips.

To increase by seeds it will be necessary to sow them in April, in a sandy loam, and when six leaves are formed transplant them into four inch pots, which will be large enough to winter them in; in the beginning of February shift them into one a size larger.

To propagate from slips it will be necessary to take them off in the months of May and June, after flowering. This is decidedly the best way, when you have a plant whose attractive beauties surpass others.

The slips should be planted round the pot, for if they come in contact with the sides, the plants will root more readily. Due moisture is absolutely necessary to their striking root. In September pot them off, and treat them the same as seedlings.

The Wallflower will not stand the severity of the winter in this country; every precaution must, therefore, be used for their protection; if not kept near the glass (in a pit) the plant will be drawn up, and its symmetry destroyed. It may be improved by mixing old lime and rubbish with loam. This will have a tendency to harden the wood, and make the flowers more fragrant, than if planted in a rich soil. It is well known that sowing the seed of Mignonette in rich soil has a great tendency to destroy its fragrance; and I think the same theory will apply to most fragrant flowers.

WASH TO DESTROY INSECTS.

Most plants, subject to parlor culture, are liable at different seasons to the attacks of insects, particularly the green fly on Roses, Geraniums, Calceolarias, and many other plants. When you find your plants infested with these troublesome insects, make a wash with two pounds whale oil soap to sixteen gallons of water; mix them at night, and the next day, after stirring them well, will be fit to use, and may be syringed over the plants, or the branches may be dipped into the suds, and the insects will disappear the next day.

This is a good wash for plants when infested with the scale bug (which adheres to the stem), by taking a piece of sponge and cleansing the stems of your plants. Oleanders, when troubled with insects, should be treated in the same manner. The suds will also be a stimulus to the growth of the plants; there is, therefore, no danger to be apprehended from its penetrating the soil in the pots. It should be observed, if you mix a greater portion of soap than mentioned above, the leaves will drop off the plant, but they will soon put out again. To kill caterpillars the decoction should be made stronger; it will be found to destroy them effectually, when syringed on them, but it will be necessary to break their web previous to the operation.

SELECTION AND MANAGEMENT OF PARLOR PLANTS.

In the culture of flowers in the parlor there is a growing taste, which should be encouraged. It was not my intention to offer any inducements on the subject, as my object was to give as much information as possible. I now deem it best to point out the plants best suited for that purpose. The aptness so characteristic in females to propagate flowers, with little instruction, is manifest to any person perambulating the city and its suburbs. Still there are many flowers now cultivated that may be considered worthless by many, for it will be found that a plant admired and propagated by one person may not be fancied by another. All flowers possess some attraction, though a discriminating taste will differ in persons; this is all proper. Many are cultivated from the facility of obtaining those most accessible, but the choicer exotics are more difficult to manage than others. Those will be left out of the selection named on page 282, where I have retained those only that can be easily managed. The choice of plants in a city is easily obtained; but those difficult to manage will never realize the expectation of the amateur for the outlay he may be induced to make; such are also excluded. Enough can be had to satisfy the desire of affording a gorgeous display in their season.

The management of well selected plants for the parlor is more difficult at one time than at another, for a variety may embrace so extensive an assortment that their treat-

ment will materially differ. The various genera of plants require great care in the winter season from the difference of heat in the room through the day and night. In the day plants should receive a due portion of light and air. To make them thrive in a room as healthful as if kept in the green-house, *light*, *air*, and *judicious watering*, are necessary.

Plants in a room should be kept as near the glass as possible in the winter, and the pots kept clear of dead leaves, and be turned round once a week, at least, to preserve uniformity in appearance, or the plants will turn to the light, growing one-sided and unsightly in their appearance. Then, again, it will be important in mild weather to have the windows raised between 10 o'clock in the morning and 3 in the afternoon, and plants should have the benefit of the morning sun if possible. If the plants by accident get frosted, the sun should be excluded from them until it is entirely out of the plant. The frost will not injure some plants, while others would be entirely destroyed. In a room, where plants are kept in the winter, the air should never be below freezing point, (32° Fahrenheit's thermometer), and if possible not over 45°. Uniformity in this particular is best, but is seldom attained in sitting rooms; the difference being greater through the day than the night, which of itself is enough to injure their appearance.

The watering of plants is seldom attended to properly. This is one of the most essential points in Floriculture. From November to March plants should be watered in the morning about 10 o'clock, and the water should be of a

corresponding warmth with the room; this can be easily effected by keeping the water pot filled, and letting it remain twenty-four hours under the stand, before being used, or by using a small quantity of warm water to take the chill off. To use water too freely, is as bad as none at all; for the roots of plants that elongate from the main body are so formed as to suck up water like a sponge; and in cold weather the plant is unable to exercise its functions to elaborate a great quantity at the leaves; it will when in a vigorous state. For this reason, the soil becomes sodded and sours; the roots being overcharged the plants will sicken and die. There are some exceptions to this rule; for the Camellia Japonica requires a good supply in the winter, to make their buds swell and expand; so does the Chrysanthemum, in the early part of the winter. The practice of placing plants out of doors in the winter, when it rains, is a bad practice. To place the Cacti family out, or give them much water in the winter, is sure destruction. The amateur generally succeeds with this class of plants, and chiefly from *neglect* to water them, not by good management in other respects. A little culture of the Cacti will generally correct all the evils attendant on them. No plant in cultivation requires more than that the soil be kept a little moist, unless plants are in a growing state. It will be plainly seen that plants, overwatered, put on a sickly hue, which is often mistaken by the novice for the want of it, and more is applied, which entirely destroys them. To obviate the evil in some measure, in potting plants in the spring or fall, give them a good drainage; this is a term used among gardeners, and may not be fully understood by others. It is simply this: when you pot a

plant, say one of five inches, place one inch of small pieces of brick or broken crocks at the bottom; other sizes in proportion, whether larger or smaller. And if the plants be kept in a saucer to prevent the surplus water from reaching the carpet, never let the water remain in it (except for swamp plants, Calla Ethiopica and the like), for when the pots have a good drainage, the water will pass freely through the soil into the saucer, washing the excrementitious substance from the plants into the saucer. Plants in the parlor will require less water in December and January than at any other time, for during these months the major part of Flora's gems are in a state of rest. In the month of February nature begins to put forth the signs of coming spring; our ideas are on the alert, and their anticipations are like the buds of the late dormant plants, shooting luxuriantly at the approach of returning spring; then encouragement will be necessary. This must be attended to by giving your plants water moderately at first, to be increased as warm weather advances. Most plants require top dressing or potting. March is a month well calculated for the operation, while some are better for repotting in October. These months are suited for the generality of plants; others through the summer. Experience will show their time.

There are many annuals and biennials that make very agreeable parlor companions in the fall and spring, when in flower, for not all perennials are suitable for that purpose; and there are many bulbous rooted plants worthy the attention of the amateur, such as Hyacinths, Tulips, Crocuses, Jonquils, Tuberoses, Polyanthus Narcissus, Snow Drops (both spring and autumn), Ixias, Amaryllis, Irises

(Persian), Gladiolus, and many others. Bulbs will do well in a room, and require but little care. The Amaryllis tribe, the Tuberose, and the Gladiolus are rather tender, and should be kept from the frost.

The following list of perennials may be considered good for parlor culture:—

Azalia,	Crape Myrtle,
Chrysanthemum,	Coffee Tree,
Clematis,	Camellia,
Fuchsia,	*Geranium [free bloomer],
*Heliotrope,	Hydrangea,
Jasmine,	Lavender,
Laurestinus,	Lemon Tree,
*Lemon Scented Verbena,	*Passion Flower,
Oleander,	Orange Tree,
Pomegranate,	Rhododendron,
Roses [in pots],	Myrtle,
Tea Tree,	Wallflower,
*Wax Plant.	

Those marked with the star (*) are tender, and must be guarded against frost. The hybrid Geraniums are very difficult to keep; it will therefore be necessary not to rebuy such as you find difficult to keep.

Soft wooded and fibrous rooted Biennials and Per

*Agapanthus,	Auricula,
Carnation,	Begonia,
*Cacti,	*Daisy,
China Pink,	*Forg
*Cineraria,	*
Campanula persicifolia,	
Canterbury Bell,	

*China Primrose,	Martagon Lily,
*Calla Ethiopica,	*Nasturtium,
*Oxalis,	Petunia,
Polyanthus,	Pimpernel,
Picotees,	Pink,
Primrose,	Pansy,
Ragged Robin,	Verbena.

(*) Will not stand much frost, and should be protected.

Annuals to be sown in September, and brought into the house to flower during the winter, to accomplish which will require a warm situation.

Brachycome iberidifolia,	Maurandia Barclayana,
Campanula,	Mignonette,
Dew Plant,	Mimulus,
Ice Plant,	Musk Plant,
Jacobea,	Martynia fragrans,
Nemophila,	Phlox Drummondii,
Portulaca,	Schizanthus,
Sensitive Plant.	

GROWING PLANTS FROM THE LEAF.

This system of late appears to meet with much approval notwithstanding its tardy way of increasing the varieties of pot plants. When a seedling plant does really possess superior merit, and the increase desirable whether for sale or novelty it is well enough. There is certainly a kind of aristocratic feeling in the idea of having a plant raised from the

simple leaf, which in former days would appear incredible. The Gloxinia has long been propagated by that medium, but the organization of the midrib of the leaf is peculiar to its species, materially different from other plants, and if the leaves lie near the soil, bulbs will form on the under side, not so with other plants. To propagate by the leaf, it is immaterial whether Rose Pelargonium, or other plants, it is necessary to take the footstalk of the leaf close to the joint of the plant, for the all important material to form roots belongs to the joint, being more succulent than other parts, consequently the formation of those parts are more prone to form root fibres. The soil should be, if possible, leaf mould and sand, equal parts. The leaf stock after inserted and watered should be covered with a bell-glass, the same as cuttings, and as the roots elongates down, so will the embryo of the new plant appear above the soil, assimilating in appearance to seedlings, and will take about the same time to flower. It will be necessary to admit air as the plants increase in size. These phenomenas of nature and art generally create a pleasing effect on the mind of the young florist, as novelty is a solace always pleasing to the amateur, especially when cultivating on a new theory.

THE FLOWER GARDEN,

OR

FLORICULTURAL CALANDAR FOR THE YEAR.

JANUARY.

At this dreary time of the year there ought not to be much to do; all necessary precaution should have been taken for the protection of outstanding plants in the previous months; still, if not attended to as directed, let it be done without delay, or you may lose some valuable plants. Should the weather be mild and the ground not frozen, and you have any bulbous roots out of the ground, plant them without delay, to save them, but good flowers must not be expected from them. Still continue to manure such beds as need it, and turn them over on all favorable occasions. It will have a tendency to destroy cut worms. This being a leisure time, prepare sticks for carnations, and other flowers that will need support in the summer, and paint them green or slate color. You will find some advantage in attending to this if only for a pastime.

THE PARLOR.

Great caution will be required in watering plants during this month; give water to none but those in a

growing state; and then in small quantities. It is better to give little and often, than lose your plants by flooding them; and be particular when you do water them, that the chill is off, or you will soon perceive the evil tendency of such neglect. The Camellia is a plant that thrives best when its leaves are kept clean, and at this season it will require a good supply of water, or their flower buds will not swell and expand; in washing their leaves never let the water touch the flower petals, or you will destroy their beauty. The room where you keep those beautiful flowering plants should be moderately heated; and give them plenty of air whenever you can do it with safety. The Camellia is by no means tender, but will bear considerable frost, without injuring the plant; but it is best kept in a room never below the freezing point; when once understood, it is one of the easiest plants to manage we have in parlor culture.

Chinese Primroses should be shifted into a pot one size larger the last of this month, and be abundantly supplied with water; their flowers will then expand to perfection. Azalias should be kept near the window, to induce them to grow; water them sparingly at first. Hyacinths, and all bulbs in glasses, need attention; guard them against frost, and change the water often; those in pots will require plenty of water, and must be kept in the window to receive the warmth of the sun, and be removed at night. The Cacti are now in a state of rest, and must be kept moderately dry. Geraniums, the last of this month, will need repotting, and should be watered sparingly. Keep your pots and plants clean, and free of dead leaves, to preserve neatness and make your plants healthy.

FEBRUARY.

Much of the labor of this month will depend greatly on the weather; if cold or wet little can be done, with the exception of transplanting ornamental trees and shrubs, such as Roses, Syringas, Persian, and other Lilacs, Pæoneas, Arbor Vitæs, &c. This should be attended to so soon as the frost is out of the ground, and their respiratory organs begin to put out. In transplanting Roses it is necessary to cut them down to within one foot of the ground, as in removing them many of the spongioles of the root are destroyed (an unavoidable occurrence); deprived of this essential to maintain the whole wood after removal, they lose the principle of life, and in most cases, by not attending to the pruning, the tree lingers, and finally dies. When pruned as directed, there is less sap to be supplied, and as the leaves and root depend on each other for support, there is enough left to equalize each other, and on their being re-established the growth is abundant and healthy.

In removing evergreen trees, the Arbor Vitæ, for instance, their roots do not diverge far from the main body; being more compact, the main body of the roots can be removed without causing much injury; but if disturbed as much as deciduous shrubs, in their removal, nothing will restore them to their former vigor and beauty. This is one cause of so much failure in trees purchased in the markets, brought from the mountainous regions. By paying a trifle more, better trees could be purchased of nurserymen, with a warranty.

In the latter part of this month commence transplanting biennial and perennial flowering plants, to where they are intended to flower. If those plants have been kept in the house through the winter, it will be necessary to have large flower pots handy to cover them at night, until hardened to withstand the spring frost. In the last of this month, should the weather be fine, give Carnations, Picotees, and Pinks in pots a gentle watering. Auriculas, Polyanthuses, and Primulas, should be top dressed, and watered occasionally, to encourage their growth. Seeds of choice Pansies, Auriculas, Polyanthuses, Mignonette, Martynia fragrans, and other parlor plants, may be sown in boxes or flower pots, be covered with glass, and placed so that they will receive the morning sun. Those desirous of still more early flowers should prepare a hot bed of stable manure to start them in; and when the plants are large enough they should be potted into thumb pots, and returned to the hot bed, until the roots are re-established. Roses not trimmed last fall should be attended to without delay. Beds may be prepared for Ranunculuses and Anemones as soon as the ground can be turned up without adhering to the spade.

THE PARLOR.

Should the weather be warm shift the following plants into a pot, one size larger than they have been kept in through the winter:—Wallflowers, Martynia fragrans, Geraniums, Roses, Verbenas, Heliotropes, Fuchsias, Calceolarias, Stock Gillyflowers, and many others not named. Chinese Primroses may be placed in a saucer the last of this month, during their flowering season, and will

do well, also, the Calla Ethiopica, and be watered regularly. The Camellia should be watered abundantly, as their flowers will now be expanding in all their beauty. Achimenes of all kinds should be potted, and be placed in a hot bed, and be kept moist. Hyacinths, in glasses, will now begin to show their flower buds; when the scape becomes tall they may require support, which should be done with wire fastened to the glass. Tulips, and other bulbs in pots, must be watered freely, as their flowering stems advance.

All plants in pots will begin to grow; give little water and plenty of air, and keep them clear of leaves. In giving your plants air let them be well guarded against frost. Azalias should be watered more freely than last month, and still be kept near the glass; when their flowers expand be liberal with water, or the flowers will soon fade and fall off. Gladiolus floribundus and cardinalis, also Sprekelia Formosissima, formerly Amaryllis formosissima, may be potted to flower early: be careful in watering them, until you perceive them growing. By the last of this month the Cactus tribe will require a little encouragement.

MARCH.

With this month commences the spring, and the business of this department will accumulate as the warm weather approaches, and on the industry of the amateur will depend their appearance for the coming season. Commence removing the protection from the Tulip and Hyacinth beds;

this should not be done too suddenly, as we have generally some cold weather in this month; therefore the weather must be your criterion to go by. The protection round your tender Roses may also be removed by degrees. Choice seeds may be sown for early flowers; this should be effected with the assistance of bottom heat, or they may be sown in drills, in a box, each variety to be labelled and covered with a pane of glass. There are two advantages attending the seeds sown this way; the first is, the glass will cause more heat than if sown in the open ground, and the next is, when the seeds are up and in the seed leaf (the time most likely to be injured by the frost), the glass is some protection, and if very severe weather ensues, the box can be removed into the house. Again, if the seed be sown in the open ground, the soil at this season should not be dug more than half spade deep, as the soil is too cold and would rot them. Experience will teach that when seed intended to be sown thus early, the soil should be stirred only with a rake; much benefit will result, for that only which has received the influence of the sun will be found congenial to the germination of seeds.

Hardy Roses may now be propagated by grafting the more choice kind on the roots of the common kinds. Carnations, Picotees, and Pinks, should not be removed from their winter quarters before the grass on the commons and fields begins to grow, for the sharp cutting winds this month are dangerous to those flowers. When you perceive the weather settled, about the last of the month, those intended to flower in pots should be shifted into a five inch pot, and be top dressed; expose them to gentle showers to encourage their growth.

Ornamental trees and deciduous shrubs may still be removed, the sooner the better, as well as biennial and perennial flowering plants. Borders and edges may now be made of Privet, Box, and of the Pheasant Eyed Pink, and turf laid. Box may now be slipped and will root readily, which should be planted by itself the first season. Rake your beds, destroy dead leaves, and clear the paths from rubbish, and make improvements that will be beneficial as well as ornamental in the flower garden. Unpack your Dahlias, and give them air to prevent their rotting.

THE PARLOR.

Plants of all descriptions should be repotted without delay, if not done last month. This month is one of the best in the year for general potting, and when it was neglected last fall it should be attended to now. Roses, when repotted, should be trimmed, and, if necessary, the parts trimmed off may be converted into cuttings to increase the stock. Hyacinths in glasses will now be in flower, and should be kept from the sun to preserve their beauty. Camellias will now be in their flowering season, and should be abundantly supplied with water; and their leaves must be kept clean, and when done flowering they should be repotted, and inarched, if a stock of good ones is desired. This should be done before the plants make their young wood.

It will be necessary to keep your plants out of reach of cutting winds, so prevalent this month, also from the frost, or they will be greatly injured. Mignonette, Petunia, Portulacca, Nemophilla insignis, Verbena, and other choice

seeds may be sown in boxes, to decorate the windows; they should be transplanted into five inch pots when of sufficient size for that purpose. Orange and Lemon Trees should have their roots examined; if found to be mouldy that part should be cut off, and then repot them again. Geraniums should be examined, as the frost or damp air will affect their leaves; such as you find injured should be taken off; give them a top dressing to encourage their growth, and give all plants plenty of air whenever the weather will admit.

APRIL.

This will be a busy month, for much has to be done, and on the operation of the flower garden this month will depend much the appearance for the whole summer. In the first place, rake the ground where you intend to sow flower seeds; it is not advisable to dig the ground for that purpose, as it is yet too cold to receive seed; that part which can be turned over with the rake has received the warmth of the sun, and is consequently more congenial for their reception. To give a catalogue of such seeds as I think most suitable for the flower garden is foreign to the object in view, as what one person would think ornamental another might not; therefore, persons in their selections must be governed by their own taste. There are no flowers but what some one will admire. All flowers possess beauty, but we do not all appreciate it. Carnations, Pico-

tees, and Pinks intended to flower in the open ground, should be set out without delay, and those intended to flower in pots should be shifted into five inch ones, and be encouraged in their growth; it would be a good plan to sink the pots into the open ground until the flowers are ready to expand, then remove them to a shady situation. Finish dividing and planting perennial Sunflowers, Double Sweet Williams, Scarlet Lychnis, Double Fever Few, and all fibrous rooted plants that will bear dividing, as they will root freely. By the last of this month dig up your garden and (if the weather is warm) plant Gladiolus, Tuberose, Tigridia pavonia, Conchiflora, and such Amaryillisses as bloom in the summer.

Persons wishing to have early Dahlias should place the roots in a half spent hot bed, but it would be best not to sprout them before next month, if you wish good flowers. In the last of the month begin to sow biennial and perennial flowering seeds. Hyacinths and Tulips in the open ground will be advancing rapidly towards blooming; should any require a stick to support them let it be done neatly, and loosen the soil between the rows; it will benefit them much. Turf for lawns or plats in front situations may be laid to advantage, and shade trees may still be planted out, but not later than the first week in the month. Arbor Vitæ, White Pines, and Cedars, and the like, for ornamenting the garden, may be planted all this month. Seeds sown last month should be attended to, as the frost is apt to kill them in the seed leaf. In the last of this month take cuttings of Chrysanthemums, place them under glass, and in four weeks they will be well rooted.

THE PARLOR.

Give your plants plenty of air, and begin to water them more freely. Tender Roses may be planted out, and also be propagated by cuttings. Orange and Lemon Trees that require removing into larger pots or tubs, should have it done. Pomegranate, Crape Myrtle, and Jasmines, should be either repotted or planted into the open ground. Azaliae and Rhododendrons will require plenty of water, or their flowers will drop. Camellias will still be in bloom; follow the direction given last month. Calceolarias, Cinerarias, Auriculas, and Polyanthuses will now begin to flower, and should be placed in the shade. Slips should be taken from the Auricula while in flower, as each color or variety can then be more readily marked, and the slips will root quick. Chinese Primroses, as they go out of flower, should be divided by parting the root; each star will make a root by placing them in the shade, and watering them regularly. Geraniums will soon be in flower, and will require attention to make them flower well; slips, taken off at any time after the middle of the month, will make good plants for next season. Seeds sown last month, for parlor culture, will be large enough some time this month to transplant into four inch pots; give them rich soil; use no saucers for them, as they are required for swamp plants only.

MAY.

This is another busy month in this department, and the earliest attention must be directed to finish sowing all kinds of seeds; transplant those sown in March and April.—Seedling plants, when of sufficient size, should be transplanted to where they are intended to flower, and great care should be taken to remove them with as much dirt as will hang to the roots. This rule does not apply to the Pansy, for if grown large it will be necessary to wash the dirt from their roots, or the plants will not survive the summer.

Tender Roses should be planted into the open ground, and they will flower more freely all summer, and need no trouble the remainder of the season; they will make large plants by the fall. Carnations, Picotees, and Pinks, now spindling up to flower, should have sticks, and be tied as they grow, to prevent the misfortune often attending them by being broken off by rough winds, or by accident. Hyacinths, when done flowering, and as soon as their leaves die down, should be taken up; also, Crown Imperials and Crocuses. The best time to take up Tulips is about five weeks after flowering; but much depends upon the weather. Above all things, never take up bulbous roots, if possible, in damp or rainy weather; the ground ought to be dry, or the sudden transition may destroy them. It will be found best to take up bulbous roots every season, which prevents the ground from deteriorating by the excrementitious discharge from the bulbs into the

soil. It is so with the agriculturist; a farmer finds it necessary to change his crops. Were the system adhered to, of sowing the same field with any particular kind of grain for several years, it would become sterile, and fit for nothing.

Wallflowers may be increased, in moist weather, by taking slips of the young shoots and planting them in the shade, and watering them regularly in dry weather; in six weeks, if properly attended to, they will be fit to pot off, or they may remain in the ground until fall, if your object be large plants, which is desirable. No Wallflower is worth growing from slips but the Double and Semi-Double; the latter is preferable. Cape Bulbs, of any kind that will flower in the summer, should be planted without delay. Chrysanthemums may still be propagated by cuttings. Hoe, rake, and keep the beds clear of weeds, for nothing attracts the attention of strangers so much as a well regulated flower garden, free of weeds.

China Pinks should be planted alongside the Double Sweet William; by this means the two will cross without artificial fecundation, and produce a beautiful hybrid plant, ornamental as well as desirable in the flower garden.

Those whose taste leads to the improvement of flowers by hybridizing, should now begin, as the field opens for their industry. This art has done much for the florist; as a proof of which we need only point out the perfection of the Rose. There are other plants equally as susceptible of improvement. The industrious bee was the first to enlighten us on this subject, as it carried the pollen from flower to flower, effecting what man little dreamed of. To

carry out this system, it would be necessary, the first thing in the morning, to take a camel's hair pencil and remove the pollen from the anthers of one flower, and place it on the summit of the pistil of a different plant, whose anthers were previously cut out very early in the morning, before that flower had shed its pollen. However simple this may appear, still there is great nicety required in the operation; and if the object has been attained, the flower impregnated will fade in twenty-four hours; if you discern no perceptible difference in the appearance of the flower, try another, and you may meet with better success. With flowers that do not seed freely, for instance the Chrysanthemum, Carnation, &c., it will be a waste of time to try experiments of this kind.

THE PARLOR.

Auriculas past flowering should be watered regularly in dry weather, and be placed where the sun does not shine after nine in the morning; remove all dead leaves as they appear, and keep the pots clear of weeds. This is a good time to detach offsets from the parent plant; pot and keep them in the shade until rooted, and then treat them the same as full grown plants. Polyanthuses may be treated the same as Auriculas. The Polyanthus is subject to the attacks of the red spider. The leaves should be watered frequently all over.

The Camellia will now be out of flower, and may be placed in a shady situation for the summer, and syringed often, to keep their leaves clean, and to keep the red spider off, which will be necessary, if you want a profusion of

flowers next season. This magnificent plant will not thrive without the leaves are kept clean, and have a good drainage, which should be attended to when repotting. Geraniums will grow from slips, also Verbenas and Heliotropes; the two latter may be planted in the open ground, where they will make a showy appearance through the summer. Oxales, when done flowering, should be removed into the shade, and be watered sparingly until in a state of rest, when no more should be given. Plants of all descriptions (Cacti excepted) may be removed the last of this month into the garden where a shady situation is preferable for most pot plants; they must be watered daily.

JUNE.

Some activity will be necessary in this department the whole of this month. The attention of the amateur will be required, first to the Carnations, Picotees, and choice Pinks in tieing them up; and as their flowers will begin to expand this month, if you discover any inclined to burst on one side, take a sharp pointed knife and make an incision on the opposite side of the calyx, for the weather will sometimes cause that defect, and if precautionary means be not taken the petals will fall out, and destroy the symmetry of the flower. The majority of prize flowers of this family of plants are constitutionally defective in that particular. When such is the case, take a fine piece of Russia matting, or a piece of bladder, and tie around the

calyx about midway, previously dipping it into water to make it pliable. As these flowers begin to decay commence piping and layering them. This part of increasing your stock will occupy from June to September, as some plants are much earlier than others.

All danger of frost being now over begin to plant out Dahlias without delay, and drive a stake to each for support, as they progress in height.

Finish transplanting all annual flowering plants, such as China Asters, Balsams, Cockscombs, China Pinks, Marigolds, &c. Biennials and perennials can be transplanted at leisure. Take up fall flowering bulbs, separate the offsets, and transplant them into another part of the garden.

Take up all bulbous roots that have done flowering, whose foliage has died down, and place them in a shaded situation, where there is a free circulation of air, to dry, and no rain can reach them.

The Ranunculus may be removed about four weeks after flowering, and dried and packed in sand. Anemones should be thus treated about the same time, or they will strike fresh root fibres; being more succulent than the Ranunculus, they will continue growing much longer, which should not be allowed. A discrimination is to be observed in their management that requires experience to surmount.

The following perennials may now be increased by cuttings, before their flowers expand: — Phlox, in all its varieties, Double Scarlet Lychnis, Lobelia cardinalis, Ragged Robin, by division of the roots, suckers of the Double

Sweet Williams should be laid down, and covered with the soil; they will root freely.

Hardy Roses should be layered without delay; they will make good roots by the fall. Roses should be layered in much the same manner as the Carnation, cut in at the joint, and slit half way up to the next joint. Be particular that the slit does not close, which can be prevented by placing a little moss between; your plants will make good roots by November. Chrysanthemums should be divided at the roots, placing one slip only in a five inch pot, and top them.

In moist weather trim Box to make it uniform and neat. Mow grass plats in front of houses, for if allowed to grow tall it destroys the beautiful effect so desirable in its appearance. Destroy insects on plants whenever they appear. Lay tanner's bark or gravel in the walks, and keep every part free of weeds, and attend to other little matters necessary for effect.

THE PARLOR.

Plants of all descriptions should be placed in the shady side of the garden, but avoid the drips of trees, and water them every evening. Verbenas and Petunias will grow freely from cuttings, and may be planted into the open ground when rooted; they will make a splendid appearance through the summer, when planted in a bed by themselves; the situation should be open and airy, to ensure a fine bloom. Orange and Lemon Trees should be removed out into the open air, and be watered regularly, to insure a good supply of fruit.

Succulent plants may now be propagated, particularly the Cacti family. In propagating the Cactus by cuttings, avoid watering them until their roots are formed; even then it must be used sparingly. It is a matter of doubt whether this family of plants should be placed out of doors in the summer. The safest plan will be to keep them in the house, as there are seasons when water is destructive to them; heavy rains must, therefore, be injurious. It will be as well through the summer to lay them on their sides and wash them to keep off the red spider.

June is a good time to graft the Cactus. Geraniums may be propagated by cuttings as well as the Heliotrope. Camellias must be syringed every night, to keep their leaves clean, as the dust will accumulate on them in dry weather; water them every night, as their flower buds will now begin to form. Tender Roses may be increased by cuttings from the young wood, when a little hardened; they will make strong plants by the fall.

This month is the best in the whole year for propagating Roses; it is therefore advisable for those wishing to increase their stock, to embrace it. Rose cuttings put down in April will be fit to pot off the last of the month. Exotic plants, of different kinds, may be increased either by cuttings or layering. Auriculas and Polyanthuses must be removed to a shady situation, and will require strict attention through the summer. Keep your pot plants clear of dead leaves and weeds. Cinerarias that are done flowering may be planted into the open ground in the shade, until September, the best time to take slips for spring plants.

JULY.

Any labor omitted last month should now be attended to without delay. Biennials and perennials should be planted out in damp weather, about six inches apart, to gain strength. Dahlias should be tied up securely, to prevent the wind and rain from breaking them down. Cuttings of Dahlias may be taken and will root freely in the shade, and should be kept in four inch pots. Plants thus struck and kept in pots will do better to propagate from next season; large plants in the open ground will not flower well the second season as they are apt to be exhausted, which is not the case with pot plants.

It would improve Dahlias much to place manure around the roots, to keep them moist in dry weather; syringe them occasionally to keep off the red spider.

Carnations, Picotees, and choice Pinks, should be layered without delay, if strong plants are wanted in the fall; twenty-four hours prior to which, water your plants freely, to make them bend with greater facility, or the greater portion will snap off, being rather brittle.

The easiest way to propagate Pinks is by piping, they being more susceptible of making root by this process, than the Carnation. In layering Carnations, sometimes the part intended to be layered will snap off notwithstanding all the precaution you may use; should the plant be valuable, then pipe them as I shall point out for Pinks. In the first place get some garden soil, and make it light by mixing plenty of sand and rotten leaves, that will pass

through a wire seive. Put this composition into a ten inch seed pan, and level the top and water it well; then take your Pinks intended for cuttings and cut them off at the third joint with a sharp knife; be careful and not bruise them; also, cut off the ends of the leaves or grass, as the gardeners term them. Having prepared as many as you wish, place them in a basin of cold water for about ten minutes, to make them stiff and enter the soil with more ease; this done, take a bell glass and press on the soil to make a mark, the better to guide you to insert your pipings; keep them within the space designed to receive them; then stick them into the soil to the first joint, about half an inch apart, each way; water them gently to settle the soil around the plants; and when the grass is sufficiently dry put on the glass to exclude the air, and place them in the shade. At the expiration of two weeks take off the glass, and water them; be careful and not cover them until the grass is dry, or your pipings will damp off and your labor be lost. When you perceive they begin to grow give a little air by degrees. You will find some more backward than others in growing, which will require some precaution in admitting air too freely. In about six weeks, if your plants have been well attended to, they will have formed sufficient root to be transplanted into the open ground. It is said that pipings make the best and most hardy plants. Pinks will grow readily from slips, and make large plants in less time than pipings, which is a desirable object. It will frequently happen that layers are destroyed by heavy and continuous rains; therefore all the layers should not be layered at once, to guard against such a circumstance.

Now begin to bud choice Roses on the Boursalt and Maiden's Blush; the former is the best, as the Blush will be always throwing out suckers. The bark should be previously examined, for unless it parts freely it will be useless to bud or inoculate them.

Spring flowering bulbs, if any remain in the ground, should be taken up without delay; if allowed to strike fresh root it will be too late to remove them without sustaining much injury.

White Lilies may be taken up and removed by the last of this month, without injuring them, but should not be kept out of the ground over six weeks.

In dry weather water China Asters and Balsams freely, if you wish them to flower well. Chrysanthemums should be topped this month, to make them throw out lateral shoots, and those wishing dwarf plants can layer them; water freely and they will soon form good roots.

THE PARLOR.

Camellias must be attended to with the strictest attention during this month, as the quantity of their flowers will depend on this. Those wishing a good show of flowers ought to assist nature in her work. Fuchsias should now be shifted into a pot one size larger, and be watered freely. Geraniums should be cut down and repotted, and the tops converted into cuttings for new flowering plants. Cactuses should be repotted. Verbenas will need a pot one size larger. Orange and Lemon Trees should be budded, and water administered freely to all pot plants.

AUGUST.

The labor of transplanting annuals, biennials, and perennials must now necessarily be over for the season; and attention should be directed to their improvement, in making them appear neat by tying stakes and trellises for their tender branches to support themselves on, and cut off unsightly branches whenever you discover them.—Dahlias should be trimmed as often as necessary; tie them up neatly to their stakes to protect them from heavy rains and winds; if the weather should be dry water them at the roots, and syringe their foliage all over occasionally; this will destroy the red spider and keep your plants in a healthy state. If you find small insects infesting your plants you must endeavor to destroy them; to accomplish this object it should be done in the morning, while the dew is on the plant, as they are less active then than at other times. It will be necessary sometimes, in the early season, to cut your plants nearly to the ground, as they are apt to eat out the bud and stunt the plants; but when the plant is full of vigor they will outgrow the damage done by these troublesome insects.

Be particular and never allow weeds to go to seed this month; it will save you much future trouble. Carnations, Picotees, and Pinks may still be layered, where it was not attended to last month; those already rooted may be separated from the parent plant and set out into the open ground until October to gain strength. Carnation and Pink pipings will require strict attention in dry weather,

and must be kept damp. Collect seeds, when the weather is fine, from different plants as soon as ripe; cut down old flowering stems of plants that are unsightly.

Chrysanthemums should be topped without delay, if not already done, and plants layered last month should be watered every night, as well as those in pots.

Seeds of Pansies should be sown, to make large plants for the spring, and choice varieties may be increased by cuttings.

Roses may be increased by budding so long as the bark parts freely.

By the last of this month begin to increase double flowering fibrous rooted perennials, that have done flowering, such as the Scarlet Lychnis, Daisies, Polyanthuses, Auriculas, and Sweet Williams, also Pansies, and different kinds of Campanulas, Rose Campions, &c. In dividing these roots let it be performed in damp weather, and always place them in the shade; your plants will then make good roots in a short time. Seedling Auriculas and Polyanthuses should be potted off into three inch pots; they will flower in the spring. In dry weather it will be necessary to water your flower beds. This will only apply to small gardens within the city, for plants in the country will grow well enough without, being invigorated by a free circulation of air, a great desideratum, and not to be obtained within the precincts of the city; artificial means must therefore be resorted to, to counterbalance such deficiencies.

THE PARLOR.

Camellias by this time have formed their flower buds fully, and will now commence growing; they may be increased from cuttings (single only), or by grafting. Much care should be taken in propagating this species of magnificent plants by keeping the cuttings and grafted plants in one uniform heat, if you wish to succeed. Calla Ethiopica should be divided at the roots, and be repotted. — Orange and Lemon Trees may still be budded, if not done before, with a prospect of success. There are many seeds that may be sown for this department, which will flower at different periods through the winter, such as Nemophilla, Mignonette, Schizanthus, Mimulas, &c.

Geraniums may still be increased by cuttings. Rose cuttings put down in May will now be fit to pot off. All plants in pots must be liberally supplied with water during this month, to keep them in health.

SEPTEMBER.

With this month commences the first indication of the appearance of winter, which is exemplified in the irregularity in plants. Having wholly performed the functions of life which nature and art bestowed on them, they will begin to decay. After their seeds are collected cut their stems off, if perennials; biennials and annuals should be pulled up and thrown away to preserve a neat appearance.

Carnations, Picotees, and choice Pinks, may still be layered, until the middle of the month, but not after, as the season will be too far advanced to enable them to make good roots before the frost sets in. Those layered last month, and well rooted, should be separated from the parent plant. Dahlias will now be luxuriating in their greatest beauty, and should be tied up to prevent their fragile branches from breaking off by the effects of wind or rain. Chinese Chrysanthemums will need much attention at this time; they must be regularly watered, and those in the ground, when their flower buds are well formed, should be lifted in rainy weather, and those layered to make dwarf plants should also be potted. Commence preparing your beds for the reception of bulbous roots, for beds should be prepared at least two weeks before being planted, to allow the ground to settle.

Tender bulbs in the ground, such as the Gladiolus, Amaryllis, Tuberose, Pavonia, &c., should be taken up on the first appearance of frost. By the last of the month commence removing hardy biennials and perennials to where they are intended to flower the coming spring.

Divide perennials, such as the Double Sweet William, Scarlet Lychnis, Foxglove, &c., so that the plants may gain strength before the winter sets in. Many annuals will withstand the winter, if their seeds be sown this month, such as the Rocket Larkspur, Flos Adonis, Catchfly, Candytuft, &c., and many others may be sown and potted off next month, and protected; for any annual that can be preserved through the winter will flower earlier, be much larger, and will produce better seed for another season.

THE PARLOR.

Tender Roses should be potted, if in the open ground; let it be done in moist weather, and they will recover and flower again in November. Geranium cuttings should be potted, giving them a good drainage. Lemons, Oranges, and Myrtles should be housed the latter part of this month, previous to which either top dress the plants, or shift them into a tub or pot one size larger. The seeds of Mignionette, and other plants wanted to flower early in the house, may still be sown. Verbenas, Heliotropes, and other choice plants that are tender, may be potted. Plants that are succulent prefer a light dry soil, or their humidity will cause them to rot; but shrubby plants will require a strong soil, if convenient a maiden soil with manure; and, if necessary, a small portion of sand to prevent its binding. Be sure and give all plants good drainage. It often happens that at the last of this month we are visited by a heavy frost; it will therefore be important to have all tender plants ready to be removed, to prevent injury.

In the middle of the month remove Camellias into their winter quarters, prior to which wash every leaf clean, as this magnificent plant will not thrive unless kept clean, and give them all the air possible, or the transition will cause their flower buds to drop, which should be avoided.

In lifting Oleanders that were placed into the open ground in the spring, great care should be taken not to injure the small and tender root fibres, or their heads will droop and not rise again, much to their injury in appear-

ance. The Auricula and Polyanthus may be divided and potted off, and placed in winter quarters.

OCTOBER.

The last of this month commences the busy time in the flower garden, and it will be time to provide a suitable place for such plants as require some protection. Beds should now be prepared for Tulips, Hyacinths, and other hardy bulbs that flower in the spring. Hyacinths, Tulips, Jonquils, and other bulbs intended to flower in the house, should be potted, and then sunk into the ground until December; by that time they will have formed good roots, and may then be brought into the house to flower. It is time now to finish dividing perennial rooted plants that were omitted last month. The Perennial Sunflower, if not divided and removed every season, will return to its pristine state, and lose its interesting beauty; also divide the Double Feverfew, Scarlet Lychnis, Sweet William, Phlox, and all fibrous rooted plants that require protection. Pansies may be divided and potted, being careful that every slip be furnished with roots. Transplant seedling Canterbury Bells, Foxgloves, Rose Campions, Wallflowers, and Brompton Stocks should be potted off into five inch pots, and be protected through the winter. Chinese Chrysanthemums in the ground should be potted in moist weather, before the frost takes them, or the beauty of their flowers will be injured.

Pot off Carnations, Picotees, and the finest Pinks, and place them where the frost, snow, or rain will not injure them during the winter. Roses, Arbor Vitæs, and most deciduous trees and shrubs can be removed without danger after the 25th of this month.

Labels should now be prepared for Dahlias, and securely fixed to every one as you take them up, to prevent any mistake. Take up tender bulbs on the first appearance of frost, and place them in an airy room to dry. Remove all decayed flower stems, and keep your beds as neat as possible; dead leaves should be kept by themselves, to be converted into manure for pot plants. Whatever was recommended last month is also applicable to this; for sometimes the season is much later one year than another, and the whole management must be regulated accordingly.

It would not be amiss to get a load of maiden soil, and mix a small portion of old manure with it, to stand all the winter exposed to the weather, turning it over occasionally to mellow. It is excellent for potting off plants in the spring, and much advantage would be gained in making your plants grow more freely and luxuriantly.

THE PARLOR.

In housing Camellias, great care should be taken to regulate the heat of the room; for too much dry heat will cause the flower buds to blast. Where the atmosphere is arid it will be found impossible for those plants to succeed. As the Camellia is rather hardy, and will bear considerable frost, a room that is kept a little above the freezing point will be found most congenial. Much uniformity is re-

quired; a room, therefore, that is kept very warm in the day time, and the frost allowed to penetrate at night, creates too great a change for any variety of plants. If uniformity cannot be obtained keep them in the coldest part of the room, as the change would not be felt so much. A pit made about six feet deep, covered with glass, is preferable to the green-house for the Camellia, and when the plants are ready to expand they can be removed to the parlor, to perfect their flowers.

Geranium cuttings should be potted off, and moderately watered; Rose cuttings put down in June will be fit to pot off. Canterbury Bells and Foxgloves intended for early flowering should be potted for that service. Oranges, Lemons, Oleanders, and similar shrubs and trees should be placed out of reach of frost. Hydrangeas, Fuchsias, Gloxinias, and other tender deciduous plants, should be watered sparingly, as their time of rest is drawing nigh. Auriculas, Polyanthuses, and all other Primulas should be removed into the house. In mild weather give all plants just removed into the house all the air possible, which will cause them to feel the change lightly; but guard against frost.

NOVEMBER.

The busy time is not yet over; much has to be done, more especially if planting and transplanting were omitted

last month. Dahlias in the ground should be taken up without delay, or there will be danger of losing them by frost. Your attention should now be directed to planting Tulips, Hyacinths, Crocuses, Crown Imperials, and other bulbous rooted plants. As a general rule, about the middle of this month is the best time for planting bulbs that flower in the spring, though it will do as late as Christmas in mild weather. But this season of the year being liable to change it will be best to plant when the ground is in a fit state. It frequently occurs that bulbs are brought to cities by Germans and Frenchmen, and sold at a low price when the proper season for planting is over; however cheap those bulbs may appear still they are dear at any price. Bulbs should be planted when you discover in them a propensity to grow, for being kept out of the ground after that time debilitates them, and they are soon worthless. These remarks will also apply to those sold at seed stores. It will be found better to give a fair price for bulbs at this time, than to buy them at a low price at Christmas, or after. I wish to make another remark, that is, these annual vendors of Harlem bulbs, generally bring nothing but the refuse of that market, for good bulbs will always bring a better price than they can sell them at; but when you purchase at a respectable seed store you may naturally expect good bulbs, if purchased in time, as there is a reputation at stake, whereas these *exotic vendors* have nothing to part with but their bulbs.

Chinese Everblooming, and other pot Roses intended to remain in the ground through the winter, should have old manure laid over their roots, and the bush tied up, enveloped in straw, or be covered with a box. This protection will

save much trouble in keeping them in the house, and their flowers will be much better the next summer. Hardy Roses may still be pruned, and those that are intended to be removed to another situation can now be moved with safety, as also ornamental trees and shrubs; for transplanting this month is the best in the year, and less trimming will be required than if planted in the spring. The Carnation family should be removed to their winter quarters without delay. Pæonies, Phloxes, and other perennials may still be removed, the sooner the better. Manure such beds and borders as stand in need of such food. Clear away all dead flower stalks, and other rubbish; turn up your beds, and make this department as neat and clean as possible for the winter.

THE PARLOR.

All pot plants will require air in mild weather, for if they are well kept this month it will have wonderful effect on their health, and enable them to bear their confinement through the winter with better facility. If not well ventilated this month they will have a sickly hue, and will seldom survive the month of March. Camellias will require attention, and must be kept clean, and be watered regular; for if the roots be allowed to get dry and then water is applied freely, rest assured their buds will droop, and you will lose the beauty of their flowers for a season. If the weather is mild never neglect to give them plenty of air. Hydrangeas, Crape Myrtles, Pomegranates, and other deciduous plants and shrubs may be placed in the cellar, out of the reach of frost; also Orange and Lemon

Trees; the two latter do not like to be kept in too damp a place, or their fruit will fall. Geraniums should be watered sparingly. Hyacinths and other bulbs intended for glasses may still be buried in the ground, or in tanners' bark in the cellar, to form their roots. Seedling annuals intended to flower in the house should be placed near the window, to receive the benefit of sun and light. Chrysanthemums should be liberally supplied with water, as their flowers will now be in perfection. Repot Cinerarias and Chinese Primroses; cease to water Gloxineas and Fuchsias. The Primrose family should be protected. Foxgloves and Canterbury Bells, in pots, should be brought into the house, with other biennials and perennials, for early blooming. What was recommended last month and was not done, should be attended to before being nipped with the frost.

DECEMBER.

It is time to presume that the work of the flower garden is drawing to a close for the season, and little now remains to be done. You may still trim Roses in mild weather, and remove trees and shrubs so long as the ground is fit for the operation: mulch them with old manure at the same time, which will be of great advantage, if the winter should be severe. Lay a protection of manure, nearly an inch thick, on your Tulip and Hyacinth beds. In mild weather manure such beds as need it, and turn them over. This will have a tendency to kill the cut worm; still follow up

the directions recommended last month, if not already done. The Carnation family will require little or no water this month; particularly ,the foliage, as there will be some danger of frost.

THE PARLOR.

Chrysanthemums past flowering should have their flower stems cut off, and the plants put away until spring. Plants done growing should have no water given them. Begin to lift Hyacinths and other bulbs buried in the ground, that are intended to be flowered in glasses; wash them clean and be careful not to injure the root fibres; place them in glasses of clean water, and change it when fœtid. Bulbs in glasses should be placed so that the crown only should touch the water. Those in pots should also be lifted, the pots washed clean, and placed in saucers near the window; those in glasses should also be placed near the window, and be removed to a warm part of the room at night, for if the water be allowed to freeze the glasses will break: attention will obviate this. Should any plants get frosted this month remove them into a dark place until the frost is drawn out, which is the only chance to recover them. The buds of the Camellia will still continue to swell, and some will begin to expand; if so, give them plenty of water, and should the moss accumulate on the soil remove it and supply the place with fresh. This will make their bud swell more freely.

A

BOTANICAL GLOSSARY.

ABRUPT, leaf pinnate, with an old or terminal leaflet.
ACUMINATE, having an open or awl-shaped point.
AGGREGATE, gathered together in fascicles or bundles.
ALTERNATE, branches, leaves, flowers, &c., starting at different distances on the stem.
ALVEOLATE, with cells, resembling the honeycomb.
ANTHER, that part of the stamen which contains the pollen.
APETALOUS, plants whose floral development is without petals.
APPRESSED, when the limb of a leaf is pressed close upon the stem; or when hairs are laid flat upon the surface of a plant they are said to be appressed.
ARMS, plants furnished with prickles and thorns, are said to be armed.
AROMATIC, sweet scented.
AROMA, odor, perfume, fragrance.
ARROW-FORM, shaped like an arrow-head, hind lobes acute saggitate.
ARTICULATED, jointed, as in the column or stem of the grass.
ASSURGENT, rising perpendicularly, without artificial support.
AWNS, the beard of barley is thus called.
AXILLARY, growing out of the axile; leaves are axillary when they grow from the angle formed by the stem and branch.
AXIS, a centre.

BARREN, producing no fruit, containing stamens only.
BIENNIAL, a plant that produces stem and leaf one year, and dies the next.
BIFID, cut half in two from the summit, two-cleft.
BILABIATE, corolla with two lips.

BIPINNATED, twice pinnated.

BITERNATE, cut into three twice over.

BRACT, floral leaf; a leaf near the flower, different from the other leaves of the plant.

BRACTEA, small leaves between the proper leaves of the plants and the flower cup.

BULBS, bulbs are buds or the winter residence of future plants; bulbous plants are perennials.

CADUCOUS, falling off early, like the poppy.

CALYX, a flower cup; in most plants it closes and supports the corolla.

CAPILLARY, hair like.

CAPITATE, growing in the form of a head.

CAPSULE, the little chest or seed vessel which opens when the seeds are ripe.

CARPEL, is a division of the fruit, each carpel forming a distinct cell.

CAULINE, developed on the stem.

CELLULAR, made up of cells or cavities

CERNUOUS, when a plant grows in a nodding, drooping, or pendulous style.

CILIATED, eye lash haired; bordered with soft paralled hairs.

CILIATE, fringed with parallel hairs.

COMOSE, applied to a flower shoot, which is terminated by barren bractea.

COMPOUND, several things in one; the Chrysanthemum is a compound flower, so is the Dahlia, both formed of numerous little flowers or florets.

CONNATE, situated opposite each other, and joined at the base.

CORDATE, heart-shaped; according to the common notion of the heart.

COROLLA, usually enclosing the stamens.

CORYMB, a bunch of flowers when the footstalks proceed from different parts of the principal axis, and attains the same height.

CORYMBOUS, formed after the manner of a corymb.

CRENATE, scolloped, notches on the margin of a leaf pointing towards neither apex or base.
CRENULATE, filled with notches.
CULM, the stem of grasses.
CUNEATE, wedge-shaped, broad and abrupt at the summit, and tapering towards the base.
CUMBIFORM, having the form of a boat.

DECIDUOUS, plants that shed their leaves annually.
DECOMPOUND, leaves twice pinnated, and to a panicle when its branches are also panicled.
DECUMBENT, lying down.
DENTICULATED, being finely toothed.
DIGITATE, a form smilar to the fingers of a man's hand.
DICŒCIOUS, when a plant bears male and female flowers individually, in different flowers.
DISTICHOUS, leaves of flowers placed in two opposite rows.
DISK, the whole surface of a leaf or top of a compound flower, as opposite to its rays.

ECOSTATE, without nerves or ribs.
EDIBLE, good when used for food, esculent.
EGLANDULOUS, without glands.
ELLIPTIC, nearly oval, between an ellipsis and a lance shape.
EMARGINATE, being slightly notched at the end.
ENSIFORM, formed like a sword, as the Iris.
ENTIRE, even and whole to the edge.
EXOTIC, plants brought from foreign countries.

FAMILIES, union of several genera into groups, at times synonymous with natural order.
FARINA, meal or flour; pollen is called farina.
FASTIGIATE, tapering to a narrow point, like a pyramid.
FERTILE, pistillate and yielding fruit.
FIBRE, thread-like part.
FILAMENT, the slender, thread-like part of the stamen.
FILIFORM, long and simple, like a thread.
FISTULOUS, hollow or tubular.

FLESHY, thick, pulpy.
FLEXUOUS, having a bent or wavy direction.
FLORET, a little flower, part of a compound flower,
FOLIACEOUS, leafy.
FOOT-STALK, a term used instead of peduncle and petiole.
FRIABLE, easily crumbled, or reduced to a powder.
FRUCTIFICATION, the act of causing fruit, theory of germination.
FUNICLE, the stalk which connects the ovule to the ovary.
FUSIFORM, radish or carrot shaped.

GENERA, a family of plants agreeing in their flower and fruit.
GERM, the lower part of the pistil, afterwards the fruit.
GERMINATION, the swelling of seed, and the unfolding of its embryo.
GRANDIFLORA, having large flowers.
GLABROUS, smooth.
GLANDULOUS, having small glands on the surface.
GLAUCOUS, smooth, of a sea-green color.
GLABOSE, round or spherical like the orange.
GLUME, a part of the floral envelopes of grass.

HASTATE, formed like the head of the ancient halbert,
HERB, a plant without a woody stem.
HERBACEOUS, plants not woody.
HERBAGE, every part of a plant, except the root and fructificatious part.
HISPID, when the spines on the surface of the leaf are not very visible to the naked eye.
HOARY, covered over with white down.
HYBRID, a vegetable production, by the mixture of two species; seeds of hybrid plants are not fertile.

IMBRICATED, lying over, like shingles of a roof.
IMPERFECT, wanting the stamens or pistils.
INDIGENOUS, native, growing wild in a country.
INFLEX, or INCURVED, folding inwards.
INVOLUCRE, where the bracteæ, or floral leaves, are set in a whorl.

INVOLUTE, a term applied to leaves, when rolled inward.
INTEGUMENT, a covering, an envelop.

JAGGED, irregularity, divided and subdivided.
JOINTS, knots or rings in culms, pods, leaves, &c.

LANCEOLATE, spear-shape, narrow, with both ends acute.
LEAFLET, a partial leaf, part of a compound leaf.
LEAF-STALK, petiole.
LEGUME, a pod; applied to the fruit of leguminous plants, such as the Pea.
LILIACEOUS, corolla, with six petals starting from the base.
LINEAR, narrow, with parallel sides, as in most grasses.
LIP, the under petal in a labiate corolla.
LOBE, large division, or distinct portion of a leaf or petal.
LUNATE, crescent-shaped, like a half moon.
LYRATE, lyre-shaped; cut into many transverse segments, larger extremity of the leaf, which is rounded.

MEMBRANOUS, in texture like a membrane, soft and supple.
MULTIFID, cut into three, four, five, or more narrow divisions.
MULTIFLOROUS, many flowered.
MURICATED, covered with sharp points.

NARCOTIC, having the power of producing sleep, as Opium.
NECTARY, that part of a flower which produces the honey.

OBOVATE, egg-shaped, with the narrow end towards the stem, or place of insertion.
OBTUSE, blunt, rounded, not acute.
OFFICINALIS, such plants as are kept for sale, as medicines, esculent herbs, &c.
OPPOSITE, standing against each other on opposite sides of the stem.
OVAL, having the figure of an ellipse.
OVARY, that portion of the pistil which contains the ovicles,
OVATE, shaped like an egg cut lengthwise.
OVULES, little eggs; the rudiments of fruit or seed before its fertilization.

PALMATED, cut into oblong segments, resembling a hand.

PANICLE, a loose, irregular bunch of flowers with subdivided branches.

PANDURIFORM, fiddle-shaped, oblong at the extremities, and small in the middle,

PAPPUS, the down of seeds, as in the Dandelion and Thistle, a feathery appendage.

PARTITION, the membrane which divides pericarps into cells, called the dissepiment.

PARTED, deeply divided; more than cleft.

PECTINATE, resembling the teeth of a comb, between fimbriated and pinnatifid.

PEDICLE, the footstalk which supports a single flower.

PEDUNCLE, the common flower stalk, developed in the axil of a non-radical leaf.

PENDENT, hanging down, pendulous.

PERENNIAL, lasting many years without perishing.

PERICARP, the vessel which contains the seed.

PERSISTENT, not falling off, permanent.

PETALS, the division of the corolla.

PETIOLE, the footstalk of the leaf.

PINNATE, a leaf is pinnate when the leaflets are arranged in two rows on the side of a common petiole, as in the Rose.

PINNATIFID, cut in a pinnate manner; a simple leaf deeply parted.

PISTIL, the central organ of most flowers, consisting of germ, style, and stigma.

PISTILLATE, having pistils but no stamens.

PITH, the spongy substance in the centre of the stem and roots.

POD, dry seed-vessel, not pulpy, commonly applied to legumes and siliques.

POLYANDROUS, having many stamens inserted upon the receptacle.

POLYGAMOUS, having some flowers perfect, and others with stamens only, or pistils only.

POLYMORPHOUS, changing, assuming many forms.

POLYPETALOUS, having many petals.

PRATENSIS, growing in meadow lands.
PUBESCENT, covered with soft silky hairs.
PULP, the juicy, cellular substance of berries and other fruit.
PUNGENT, stinging or pricking.

RACEMES, when flowers are arranged round a filiform simple axis; each particular flower being stalked.
RADIATE, the lingulate florets around the margin of a compound flower.
RADICLE, a term applied to leaves proceeding immediately from the root, as in the Daisy; also the minute fibres of a root.
RAMIFEROUS, producing bunches.
RAMOSE, branching.
RAMUS, a branch.
RAY, the outer margin of compound flowers.
RECEPTACLE, the end of a flower stalk: the base of which the different parts of fructification are usually attached.
REFLEXED, bent backwards.
RETICULATED, having the appearance of net work.
RETUSE, abruptly blunt at the end.
RINGENT, gaping.
RUGOSE, rough, or coarsely wrinkled.

SAGITATE, shaped like an arrow head; triangular and very much hollowed at the base.
SCAPE, a stalk which springs from the root, and supports the flowers and fruit, without leaves.
SCALES, any small development resembling minute leaves; also the leaves of the involucre of compound flowers.
SEPAL, leaves or division of the calyx.
SERRATED, edged with teeth like those of a saw.
SESSILE, said of leaves seated on the stem, without foot stalks.
SETACEOUS, bearing some resemblance to the form of a bristle.
SILICLE, the small round pod of cruciform flowers.
SINUATE, undulating, or wavy.
SPADIX, flower stalk developed in a spatha.
SPATHA, a simple floral leaf, enclosing the whole inflorescence.

SPATULATE, large, obtuse at the end, tapering into the stalk at the base.
SPECIFIC, belonging to a species only.
SPIKE, a flower so called; seated upon a long rochis.
SPINDLE-SHAPED, thick at top, fusiform.
SPINOUS, full of prickles.
STAMEN, the male organ of a flower.
STAMINATE, having a stamen without pistils.
STELLATE, like a star.
STIGMA, the female organ of a flower.
STIPULE, a leafy appendage at the base of petioles, or leaves.
STYLE, the part of the pistil between the stigma and the germ.
STRIÆ, small streaks, channels or furrows.
SUBULATE, awl-shaped, narrow, and sharp pointed.
SUCCULENT, juicy: also a pulpy leaf, juicy or not.

TANNIN, an astringent principle of plants, &c.
TENDRIL, a filiform or thread-like appendage of a climbing plant.
TERMINAL, ending, or at the top.
TERNATE, consisting of three leaflets.
TISSUE, thin fabric or envelop composed of, or interwoven with small fibres.
TOPICAL, local, confined to a place.
TOOTHED, cut so as to resemble teeth.
TRIFID, cut into three.
TUBER, a solid fleshy knob.
TUBEROUS, thick and fleshy, containing tubers as the Dahlia.
TUMID, swelling.

UMBELS, the round tuft of flowers, as produced by the Carrot.
UNARMED, opposed to spinous; free from prickles.
UNILATERAL, when the leaves are all turned one way, and are all on one side.

VARIETY, subdivision of species, distinguished by characters not permanent.

VALVES, parts of seed-vessels into which they are separated; the leaves which form a glume or spatha.

VENTRICOSE, inflated.

VESICULAR, composed of vessels.

VERTICILLATE, whorled, heavy leaves, or flowers, in a circle round the stem.

VILLOUS, closely covered with long hairs, so as almost to hide the surface.

VIROSE, nauseous to the smell, poisonous.

VISCID, thick, glutinous, covered with adhesive moisture.

WINGS, two side petals of a papilionaceous flower.

WHORLS, where many parts are set round an axis in the same place.

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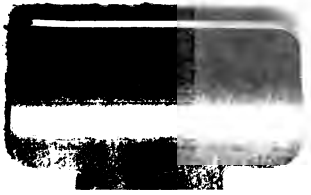
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